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as merely pictures of a part of the living universe, which could not be directly approacht: to exercise their own understanding, their own reason, their own judgement in everything. Nor was the field of Roman history left unvisited by this youthful spirit of freedom. It is undoubtedly to the pervading activity which prevailed during the latter part of that century, that we owe the first work which, while it discusses an abundance of details, enters into a general examination of what this history is and may be made: I mean the masterly inquiries of Perizonius; a book which, like other products of genius, is unsurpast and classical in the kind wherein it was the first. Perizonius however, though we here feel the breath of that spirit which in those days was everywhere awakening, had advanced far beyond his age; and Bayle, who twelve years after pointed out the contradictions and impossibilities contained in a few portions of the earliest history of Rome, makes no use and takes no notice of him: nor does Beaufort, although his sole attention was directed to that object, which Bayle merely fixt his eyes on for a few hours, among a thousand others of the same kind.

Beaufort was ingenious, and had read much, though he was not a philologer. One or two sections in his treatise are very able and satisfactory: others on the contrary feeble and superficial. Bayle is the master whom he implicitly follows throughout: the soul of his book is scepticism: he does nothing but deny and upset: or, if he ever tries to build, the edifice is frail and untenable. Yet the influence and reputation of his book spread extraordinarily. For Roman history had almost entirely escaped the attention and care of philologers:

those who chiefly interested themselves about it, though not more so than about that of other nations, were intelligent men of the world: and for their use it was at that time handled by several authors, without pretensions or view to learning and research. Such of these as did not wholly overlook the earlier centuries, under the notion that they were of no importance, were so well satisfied with Beaufort's inquiry as to give them up altogether. Gibbon's history, which even in a philological point of view is a noble masterwork, left this region untoucht.

The end of the last century was the opening of a new era for Germany. Men were no longer satisfied with superficial views in any field of knowledge: vague empty words lost their currency. Yet the work of destruction, which had gratified the preceding age, in its anger against the continuance of an authority founded only on usurpation, was no longer held to be sufficient. My countrymen strove after definite and positive knowledge, like their forefathers: but it was after true knowledge, in the room of that imaginary knowledge which had been overthrown. We had now a literature, worthy of our nation and language: we had Lessing and Goethe: and this literature comprised, what none had yet done, a great part of the Greek and Roman authors, not in mere copies, but as it were reproduced. For this advantage Germany is indebted to Voss, whom our late posterity must extoll as their benefactor; and with whom a new age for the knowledge of antiquity begins. He succeeded in eliciting out of the classical writers, what they are wont to presuppose, their notions of the earth for instance, and of the gods, their ways of life, and

their household habits: and he understood and interpreted Homer and Virgil, as if they were our contemporaries, only separated from us by an interval of space. His example wrought upon many: upon me, ever since my childhood, it has been enforced by personal encouragement from this old friend of my father.

Previous ages had been content to look at the ancient historians in the way many look at maps or landscapes, as if they were all in all; without ever attempting to employ them as the only remaining means for producing an image of the objects they represent. But now a work on such subjects could not be esteemed satisfactory, unless its clearness and distinctness enabled it to take its stand beside the history of the present age. And the time was one when we were witnessing many unheard of and incredible events; when our attention was attracted to many forgotten and decayed institutions by the sound of their downfall; and our hearts were strengthened by danger, as we became familiar with its threats, and by the passionate intensity it gave to our attachment to our princes and our country.

At that time philology in Germany had already reacht that highth, which is now the boast of our nation. It had recognized its calling, to be the mediator between the remotest ages, to afford us the enjoyment of preserving an unbroken identity through thousands of years with the noblest and greatest nations of the ancient world; by familiarizing us, through the medium of grammar and history, with the works of their minds and the course of their destinies, as if there were no gulf dividing us from them.

In this manner, although Greek literature long possest

an almost exclusive preference, the critical treatment of Roman history, the discovery of the forms of the constitution which had till then been misunderstood, was a fruit that time had been maturing: and a multitude of fortunate circumstances combined to foster its growth. It was a time full of hope, when the university of Berlin opened: and the enthusiasm and delight in which months rolled away, while the contents of the first volumes of this history were digested for lectures, and workt up for publication;—to have enjoyed this, and to have lived in 1813,—this of itself is enough to make a man's life, notwithstanding much sad experience, a happy one.

In this state of delight the meaning of many an ancient mystery disclosed itself. But yet more were overlookt: in much I erred: a still greater part was left in a disjointed condition, feebly supported by proofs. For my knowledge was the unsatisfactory knowledge of one who had been self-taught, and who as yet had only been able to devote such hours to study as he could withdraw from business: and I had reacht my mark like a man walking in his sleep along a battlement. That these defects, and the overhasty composition of the first volume, which had compelled me to introduce sundry corrections in the sequel of the work itself, did not hinder its reception from being on the whole very favorable, is a proof that the revival of Roman history was in accord with the spirit of the age. Nay our age may discern itself to be immediately called by Providence to this inquiry; inasmuch as, within the eleven years since it commenced, three new and rich sources have been opened to us by the publication of Lydus, Gaius, and

Cicero's Republic: whereas centuries had previously elapst without adding to our means of knowledge.

To these defects of my work I was far from blind. The points attackt by those who criticized it, were by no means the weak ones, but often the soundest and strongest. My being aware of these faults, and desirous to make use of the new discoveries, was the main reason which retarded the continuation: for it was necessary that, before I proceeded, the first volume should be written anew. Meanwhile I was living in Italy, and at Rome; and was too much taken up in seeing and receiving impressions to work with energy at books. Besides I fancied I should scarcely be able to proceed, without the happiness I had once enjoyed, when the point on which an inquiry hinged would come forward into a clear light during a conversation with Savigny; and when I found it so easy to ask many a question, so cheering to complete an embryo thought, and to try its worth. On my return to Germany I drew up the plan of the third volume, preparing the way for it by remodeling the first, and correcting the second.

This new edition, in which it has been my aim to make all the proofs and solutions satisfactory, required very extensive labours. But, as all labour is lightened when new springs of activity are imparted, so this was mainly promoted by my lectures on Roman antiquities last winter. The words of Pyrrhus to his Epirots, — *Ye are my wings*, — express the feeling of a zealous teacher toward hearers whom he loves, and whose whole souls take part in his discourse. Not only are his researches promoted by the endeavour to make himself

clear to them, and to utter nothing as truth which can admit of a doubt: the sight of them assembled before him, the personal relation in which he stands to them, awaken a thousand thoughts while he is speaking: and how different a thing is it to write down words which have previously been poured forth as the fresh thoughts prompted them!

The work I here lay before the public, as the first glance will shew, is an entirely new one, in which scarcely a few fragments of the former have been incorporated. It would have been far easier to preserve the groundwork of the first edition: I resolved on the more difficult task, as the most expedient, from its giving unity and harmony to the whole. That whole, made up of this and the next two volumes, is the work of a man in his maturity; whose powers may decline, but whose convictions are thoroughly settled, whose views cannot change. Accordingly I wish that the former edition may be regarded as a youthful work. Our friends are often more tender-hearted toward us than we are ourselves: and perhaps one or two may regret some things that have been destroyed and cast away. More than once it was with a lingering hand that I overthrew the old edifice. But what was built on suppositions ascertained to be wrong, could not be permitted to remain: nor was it allowable to preserve it by slipping some other prop under, so as to efface the appearance of the original foundation.

The further continuation down to the term I have now set before me, I may, if it please God and his blessing abide with me, confidently promise; although the progress may be but slow. It is the work of my

life; which is to preserve me a name not unworthy of my father's. I will not lazily abandon it.

When a historian is reviving former times, his interest in them and sympathy with them will be the deeper, the greater the events he has witnest with a bleeding or a rejoicing heart. His feelings are moved by justice or injustice, by wisdom or folly, by coming or departing greatness, as if all were going on before his eyes: and when he is thus moved his lips speak, although Hecuba is nothing to the player. Would it were acknowledged that the perfect distinctness and clearness of such a vision destroys the power of obscure ideas and indefinite words! that it precludes the silly desire of transferring out of ages of a totally different character what would now be altogether inapplicable: that, to retain the poet's simily, it precludes fools from coming forward as knight-errants, to avenge the sorrows of Hecuba. If any one, after being reminded of this, persists in misapprehending my meaning, he must be dishonest, or at least very simple. Of the principles on which the political opinions in my work are formed, there is not one that may not be found in Montesquieu or Burke: and the proverb, *quien hace aplicaciones, con su pan se lo coma,* is enough.

It is with a solemn feeling that I close this preface with the words which fifteen years ago closed that of the first edition: the repetition of them "brings back the images of joyous days, and much-loved shades rise up before my soul."

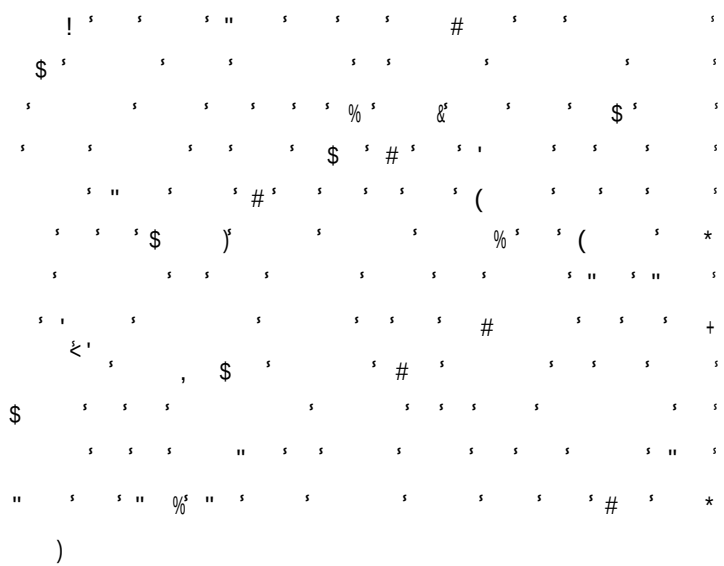
There is an inspiration which proceeds from the presence and the converse of beloved friends; an immediate action on our minds, whereby the Muses are revealed to

our view, awakening joy and strength in us, and purging our sight: to this my whole life long I have owed whatever was best in me. Thus it is to the friends amid whom I returned to studies long resigned or faintly pursued, that I owe the result, if it has been auspicious. Therefore do I bless the beloved memory of my departed Spalding: therefore too allow me openly to express my thanks to you, Savigny, Buttmann, and Heindorf, without whom, and without our deceast friend, I should certainly never have had the courage to undertake this work, without whose affectionate sympathy and enlivening presence it would hardly have been accomplisht.

BONN,
December 8, 1826.

In this new edition none of the results delivered with any degree of positiveness in the former have been retracted: but some new ones, along with sundry scattered additions, have been inserted, which tend to complete those formerly gained. Several of the views have become more definite, and the representation and expression of them clearer. Thus it will serve as a firmer foundation on which the following volumes may be raised without props or other outworks.

April 9, 1828.



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:' 9' 27<+' +3' 452*9' =+2' 2' +'9 4 (' +3(' +2?' +3' '
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< 2/39' 4:' +'9' 3AR7'9' 3' 9 ()3' =' +' +3' *4@)39' 4 *253* 9'
4:' 367@)'/2*' 2*?' /';'/' ;' 739'Y'+'<+ 3*3?' + 47<+' +'9'
='9+' 4:' @3+4)?'*<' '*' +3' '539' 4:' +'9' 2*/39 4 9' +3' 3C
52'*9' 4:' +3' @ 2H3*' 2<3' /45'*<' ?4=*' 2)549' 4')''9'
4=*' ?2(9$Y =' +' 2' < 2;' (' 2*?' ?'<*' (' =+'/+' 97 629'
+3' < 32' 53*' 4:' +3*9' =' +' +3' ' 7*/4*/32)3?' +752*'
:2')'*<9' 2*?' =32E*39939' 2*?' + 3=' +35' '* 4' +3' 9+2?3

>' !(.0/ :1'!17' ' /' '? +,1.1'1@18' "'0' -'80" 1;145'1:'6.04'
',1'7181."!' (08:148"' 08

29 57/+ 29 +3 /4*R739 4: ;29 356' 39 2*? :'3 /3 *2C '4*9 ?'? +3 6299'4*2 3 9 7<<)39 @3 =33* 63 (367@)'/9G : , +3 =4*?3 9 4: +3 03 9'2* =2 944* 629 =' + +3 452*9 :4 2* '567?3* :2@)3 .

'3 5'??)3 2<39 2*? 2)(4* ' 9 3<3*3 2 '4* @3C '*< 7*2/R72'* 3? =' + +3 2 2/ '4*9 4: +3 33E +'9C 4 '2*9 @39 4=3? 2)) +3' 2?5' 2 '4* 4* +3 +'9 4 (4: !))4 5 3G 29 ': :2 3 +2? 532* 4 52E3 253*?9 4 +3 2*/'3* +3 439 :4 +3 '*?'::3 3*/3 4: +3' 649 3 ' (' '* +3 2<3 =+'/+ +2? @33* ? 2=* 2=2(' : 45' +35' @(' 2 :4 3'*)' 3 2 7 3' '3 3 '9)')3)32 *'*< @7 4*)(' +3 54 ^ 9'56)'/' (' 2*? 9'*/3 ' (' '* +3 3;3 3*/3 =' + =+'/+ +3 2)'2*9 4: +3 5'??)3 2<39 2 +3 ?2=* 4: E*4=)3?<3 6 4*47*/3? +3 < 32 *2;'39 4: 453' 3 +269 +3(' 4*)(' :3) +3 54 3 '* '52 3 =' + +35 @3/2793 =' +47 3:'*'*< =' +47 +33?'*< +3.'?'::3 3*/3 4: 52**3 9 2*? '539 +3(' '*;39 3? +3' *4@)3 96' ' 9 !=' + +3 3)2 '4*9 2*? 2)549 '!=' + +3 :4 59 4: +3' 4=* /4* 3564 2 '39 2*? :3))4=/47* (53*$,79 29 +3(' ;'3=3? +3 '563 '2) 64=3 4: +3' 4=* ?2(9 29 2* 7*2) 3 3? /4* '*72 '4* 4: +3 356' 3 4: +3 2392 9 *'#2* 309 3(39 "' <') =29 2 45@2 ?$ 29 3;3*)2 3 +3 62'* 3 9 64 2(3? +3 4C 52*9 '* +3 ? 399 4: +3' 4=* '539G +3 6346)3 +4C *47 3? "' <')0 45@ 2*? +'9 5354 (29 +2 4: 2 64=3 C :7) 2*? @3*3:'/3* 52<'/'2* ;3* 3 '2 /+ 2*? +3 *4 ?47@ /4*9/'479)(/+3 '9+39 +3 ?3)79'4* +2 +3 7*' (4: +3 *2 '4* =29 7*@ 4E3* 3A/36 @(' '53G +3)44E9 4* 3:274 4)4*72 29 2* 4)? 62 '/'2* 2*? 4* '3*H" 29 2 '@7*3 4: +3 6346)3 =29 *4 ')) +3 :4))4=C '*< /3* 7 (+2 2* 'R7' (' =29 ?'93* 2*<)3? : 45' +'9

/4*:79'4*' =' +' +3' 6 393*' '53'6 2*?' 29' 3;3 (' <3 5' =29' +3*' 3A62*?'*<' =' +' 6 4?'<'479' ;'<47 ' 2' :3=' 4:' +3')32 *3?' 9633?')(' <2'*3?' +3' 549 ' ?'9 '*/ ' 2*?')';3)'39 ';'3=' 4:' +3' /+2 2/ 3 ' 4:' 2*/'3*' 453' =+'/+' =3' /2*' +463' 4*' +3' =+4)3' 4' 2 2'*' 4' 57/+' 29' +29' 9'*/3' @33*' @ 47<+' 4')'<+' +2' 52(' :7 *'9+' 79' =' +' 54 3' 2//7C 2 3' '*:4 52 '4*' '*/3' +3' '53' 4:' '<4*'79' +4=3;3 ' +3' +'9 4 (' 4:' 2*/'3*' 453' +29' 4=3?' @7 ')')3' 4' 9/+4C)2 9'6 ' ' 39/263?' : 45' +3' ' +2*?9' 2*?' :3))' '*' 2' :3=' :4 C 7*2 3' /2939' '* 4' +493' 4:' < 32 ' 9 2 3953*' $ @7 ' 549)(' 4:' 4 ?'*2 (' +'9 4 '2*9

*3' 579' *4' ?'9<7'93' : 45' 4*393):' +2' ?7 '*<!' +3')29' =4' /3* 7 '39' '*9 32?' 4:' <2'*'*<' '*' ?'9 '*/ *399' 2*?' /456)3 3*399' ' ' +29' 2 +3 ')49 ' +3' 4)?' 2)'2*' 6+')4B')4<3 9' =+493' =+4)3' @3'*<' =29' '56 3<*2 3?' =' +' +3' 96' ' ' 4:' 2*/'3*' 453' _*?' =+4' =3 3' '*96' 3?' =' +' 9453 +'*<')'E3' 2' :2/7) (' 4:' ?';'*2 '4*' 3;3*' @(' +3' /)29C 9'/2)' < 47*?' +3(' 4?' 4*' +2?' : 2533?' 2*' '?32' 4:' +3' 7'*3?' @7')?'*<' : 45' ' 9!: 2<53* 9' 2*?' '*' /)32 '*<' 2=2(' +3' 7@@'9+' +2?' 39 4 3?' ' ' '*' +3' ' 5'*?9' '3' =2* ' 4:' +'9' '?32' '*,7 3?' +3' =4 E9' 4:')'493' +4' = 4 3' 4*' 452*' +'9 4 (' 29' 64)' '/'2*9'$ 2*?' +79' +3' +'9 4 (' ' 93):' =29' /4 76 3?' :' +'9' 2/+'2;3)0' `J:'/4 9' ' +47<+' 94' :7)' 4:' 97@ ')3' 2*?' 6 4:47*?' 352 E9' 2 3' 2' 9'<*2)' '*C 9 2*/3$' 9'*/3' +3' 2)E9' 2)=2(9' '*?33?' 549 ' '*<3*'479)(' @7 ' ;3 (' 4: 3*' 4:' +'*<9' =+'/+' *3;3 ' 3A'9 3?' ' 53* '4*' +'5' '*' +'9' 6)2/3' @3/2793' +47<+' +3')';3?' '*' 2*' 2<3' =+3*' 6+')4)4<'/2)')32 *'*<' =29' 2 ' ' 9' +'<+ +' +3' =29' 2)C =2(9' 2' 9 2*<3 ' 4' ' 9' 96' ' ' 4* 39R7'37' =' +' 6 3C 3*9'4*9' 4' 2//7 2 3' +'9 4 '/2)' '*:4 52 '4*' 2*?' +3 3:4 3')'E3)'3 ' 4' ?4' +2 5' @(' 39 2@)'9+'*<' 3 4*3479' 46'*'4*9,' '9' :7)' 4:' 5'9 2E3*' ;'3=9' 2*?' =+3*' +3' 9632E9' 4:' 2*(' :2/ 9

□□

;3 (' 4: 3*' 7 3)(' 5'9)32?9' 79C 2*' 46'*'4*' =+'/+' ' ?4' *4 '?3)';3 ' :4 ' +3' 92E3' 4:' ?3 2/ '*<' : 4,*' +'9' :2 5 3C :4 ' ' ' ='))' 2 +3 ' 27<5 3* ' ' ' 4' :'*?' +2 ' 2' /2*?'?' 32?3 ' 5 79 ' 9 '))' 2?5' 3' +'5 ' 3;3*' 2: 3 ' +3' +29' 2/R7' 3?' +3' 9 4*<39 ' /4*;'/ '4*' 4*' +393' 64'* 9' : 45' +'9' 4=*' '*;39C '<2 '4*9 ' +2 ' =3' ?4' *4 ' 7*?3 9 2*?' +3' 2*/'3* 9 ' 7*C)399' =3' : 253' ?'9 '*/ ' *4 '4*9' 4:' 97/+' 4@,3/ 9' 4:' +3' ' 3;3 (?2(')':3 ' 29' =3' +2;3' '*' /45 54*' =' +' +35 ' 7*?3 ' +3' :4 59' +3' ' 3(39' =3 3' 2//79 453?' 4$ +2 ' =3' 9+47)?' <4' 4 2))(' 29 2(' ':' 829' +3' 5'??)3' 2<39' ?'?' 2*?' 9'*/3' 94' 52*(' +'*<9' =3 3' 9 '))' 7*/+2*<3?' 5'<+ ' ?4' =' +47 ' @3'*<' 3R72))(' ?3/3';3?D' =3' 4?L' 4*' 32?'*<' 4:' 2' 452*' +4793 ' 2' 452*' 9+'6 ' 452*' 2<''/7) 7 3' 2*?' 2?3 ' 452*' ? 399 ' 4 ' +3' '* 3 '4 ' 4:' 2' +4793+4)?' '*' 2*/'3* ' 453 ' /4*/3';3?' +3' 9253' *4 '4*9' =+'/+' 2*9=3 ' 4' +493' =4 ?9' '*' 47 ' 4=*' ?2(9'Y ' +'9' 3;3 (@4?(' 579 ' :33)C @7 ' +3' 62 2)4<'959' 4//29'4*3?' @(' +3' 793' 4:' 3R7';4/2)' 3 59' <4' 57/+' :7 +3 ' +2*' +3' 47 =2 ?' :4 5' 4:' +'*<6 ' +3' '?329' 4*' =+'/+' +3' '*9 ' 7 '4*9' 4:' +3' 452*' 9 2 3' 2*?' ' 9' 2?5'*'9 2 '4*' =3 3' :47*?3?' '?329' =+'/+' '*' 549 ' /2939' 2 3' 6 39766493?' '*' +3' +'9 4 '/2)' 2//47* 9 ' 2*?'B2 3' ;3 (' 2 3)(' 3A6)2'*3?' *4 ' 3;3 ' 3A/36 ' '*' 62 '/7)2 ' '*C 9 2*/39 ' =3 3' *4')399' ?'::3 3*' : 45' 47 9 ' +2*' +3' 452*' ?=3))'*<9 ' /)4 +'*<' 2*?' :44?' *?' 29' +3 3' '9' *4 +'*<' +3' 9'2 '/9' :'*?' ' ' +2 ?3 ' 4' /4*/3';3' +2*' +3' '?32' 4:' 2' 367@)'/2*' /4*9 ' 7 '4*' 29' +3' '*?449' 2 3' 7 3)(' 7*C 2@)3' 4')44E' 764*' +3' *?'2B 4562*(' 29' 2*' 2994/'2 '4*' 4:' 6 46 '3 4 9' 4 !' '*' 2*(' 4 +3 ')'<+ ' +2*' 29' 2' 6 '*/399 ' 94' ' ' :2 39' =' +' 3;3*' +3' 2/7 39 ' 4:' +3' 54?3 *9' '*' +3' +'9 4 (' 4:' 2* 'R7' (' 7*)399' @(' / ' '/2)' 2*?' 6+')4)4<'/2)' 9 7?'39' +3(' +2;3' 9 '6 ' +3593);39' 4:' +3' ' +2@' 72)' 29C 94/'2 '4*9 ' +79')'3' /4*?' '4*' 4:' +3' 452*' 6 4;'*/39

2*?' 4:' +3' ' <4;3 *4 9' =29' 94' 354 3' : 45' 47 ' 792<39 '
+2 ' 2) +47<+' 63 +269' *4*3' @7 ' 2' 9 2 3952*' '9' /262@)3' 4:'
'* 3 4<2 '*<' +'9 4 (' 4*' 97/+' 52 3 9' 2*?' 4:' ?';'*'*<'
+3' 532*'*<' 4:' : 2<53* 9' =+'/+' 4' +3'ß/456')3 ' =47)?'
2)=2(9' @3' 2' 5(9 3 (' (3 J' 7*)399' +3' +'593):' 52E39' 3ß'
!932 /+39' 2*?' '9' R72)':'3?' :4 ' 52E'*<' +35 ' +'9' *4 '4*9'
4*' +393' 64'* 9' =')' 3' +3 ' @3' :2)93' 4 ' ;2<73' 2*?' '*/4C
+3 3* ' %4 ' '*9 2*/3' +3' 9 2 3' 4:' +3')2=' /4*/3 *'*<'
)2*?3?' 6 463 (' 2*?' +3' 67@)'/' ?452'*9' 2 ' 2*/'3* ' 453'
?'::3 3?' 4' 97/+' 2' ?3< 33' '*' ' 9' 63/7)'2 ' '39' : 45' +3'
'<+ 9' 2*?' '*9 ' 7 '4*9' =3' 2 a' 793?' 4' +2 ' +3' /4*:47*?C
'*<' 47 ' 4 ?'*2 (' *4 '4*9' 4:' 6 463 (' =' +' +493' 4:' +3'
2*/'3* 9' 2' /4*:79'4*' : 45' =+'/+' 4* 39R7'37' ?'?' *4 '
E336' /)32 ' 2*(' 54 3' +2*' 2/+'2;3)' @3:4 3' +'5 ' <';39'
'93' 4' +3' 549 ' < 499)(' 3 4*3479' 46'*'4*9' 4*' +3' 549 '
'564 2* ' R739 '4*9' 4:' 452*')3<'9)2 '4*'$ 46'*'4*9' 7*C
?3 ' =+'/+' +3' ;4'/3' 4:' ,79 '/3' 579 ' 6 4*47*/3' /4*C
?35*2 '4*' 2<2'*9 ' 2/ '4*9' 2*?' 53297 39' 63 :3/)(' @)2530C
)399$' 4 ' 2*' '*?'9 '*/ ' :33)'*<' 4:' 3* +79'295' :4 !<'B32 ' 2*?'
4@)3' /+2 2/ 3 9' 579 ' 6)32?' '' @3+2):' 4:' +3' 549 ' ?2*C
<3 479' 6 4,3/ 9' 2*?' 3* 3 6 '939 ' b

+3*' +3' 33E9' +2?' :2))3*' 7*?3 ' +3 ?45 '*'4*' 4:'
453' +3' R739 '4*' =+3 +3 ' +3 ' < 32 *399' =29' 2' <': ' 4:'
:4 7*3' 4 ' +2?' @33*' 2/+'3;3?' @(' +3 ' 4=*' 3::4 9' @(' +3 '
;' 73' 29' ' ' =29' 3 53?' 356)4(3?' +3' = ' 3 9' =+4' 3C
<7)2 3?' +3' 46'*'4*9' 4:' 32?3 9' 2*?' 4:' 94/'3 (' '*' +3'
7*=2)'E3' 2*?' '?)3' 29 ' ' =29' 2*' '?)3' R739 '4*$' *4 '
9 2 3?' '*' +3' 93*93' '*' =+'/+' ' + '?2 39' '*')2 3 ' '539'
P52(' 6 4@2@)(' +2;3' 53?' 2 3?' 4*' ' G' =+3 +3 ' 2))' 39'9 C
2*/3' 579 ' @3' 7*2;2')'*<L' =+3 +3 ' 2*' 7*2) 3 2@)3' ?39 '*('
+2?' ?3/ 33?' +2 ' 453' 9+47)?' @3' +3' 5'9 399' 4:' +3'
=4 '?L' 4 ' =+2 ' =29' 9/2 /3)(')399' :4 5'?2@)3' =+3 +3

+3 7*52 /+2@)3 3A/3))3*/3 4: +3 *2 '4*2) 96' 2*? 4: +3 '*9 ' 7 '4*9 2997 3? +3 452*' 2 5'39 4: @3'*< ;'/C 4 '479 :4 3;3 L +3 R739 '4*' 53 3)(' @79'3? 97/+ 29 ='9+'*< 4 <3 '? 4: +3' 9+253 2 +3 ?'9< 2/3:7) 52*C *3 '*' =+'/+ +3(' +2? 97*E '* 4 +3' 6 393* =3 /+3?B *399 6 3 3*?3? +2 =2* 4: 3*3 <(4: ;' 73 2*? 4: 7*?3 9 2*?'*< =29 2 53 3 93/4*?2 (' /4*9'?3 2 '4*' '*' 2 /293 ?3 3 5'*3? @(' 2*' ' 39'9 '@)3 :2 3 +3 9253 !'53 2: 3 +3 52**3 4: 9)2;39)'E3 12* +'29 '*' +3 /45'/ 643 . +3(' 947<+ +3' +'<+39 < 2 ':'/2 '4*' '*' 32;39? 466'*<' '*' 3))'*< 2)39 4: +3' 529 3 9 2*? '*' /+32 '*< +35 4)(@'79 =+4 +2? '*?33? @33*' '*' 32 *C 39 =+4 =29 73 4 +'9 /2793 !0@7 ('3)?3? 4 +3 4;3 C 64=3 '*<:4 /3 4*' =+'/+ +3 :44)'9+ 29+*399 4: +'9 /47*C (53*' 9 ' 3? 76 29 +3(' +2? @33*' @(' +3 +47<+)399 2*? +3 6 4:)'<2 3 +2? = 3/E :3) +'9 '*?'<*2 '4*' 3AC /' 3? @(' +3 6 2 '*< 4: 97/+ = ' 3 96 2*? 4*3 4: +3 67 C 64939 4: +'9 +'9 4 (' =29 4 52E3 ' /)32 4 +3 33E9 +2 +3 < 32 *399 4: 453 =29 *4 :47*?3? 4*' 2*(' :2C 2)' (' @7 4*' :' 5*399 4: =')) 4*' 92<3 '*9 ' 7 '4*9 2*? 7*=32 '3? ?')'<3*/3 '*' 6 393 ;'*<' @3 3 '*<' 2*? 266)(C '*< +35 *' 94 ?4'*< +4=3;3 +3 ?'? *4 @39 4=' 2*(' 6 2'93 :4 2/ 72) ;' 73 4*' +3 452*9 4: +'9 2<36 2*? ':' +3 *4=' 2*? +3*' 3A6 39939)''593):' =' +' 2*' 3* +79'295 +2 97 6 '939 79 '*' 2 52*' 6)2/3? 29 +3 =29 =3 579 3:)3/ +2 +'9 =+4)3 /+2 2/ 3 =29 +4 47<+)(' 6 2/ '/2) 2) 4<3 +3 ?39 ' 7 3 4: +2 :3 ;47 2*? +2 '52<'*2 ';3 :33)'*<' =' +' =+'/+ +3 +3*'2*9 /4* 356)2 3? 3;3*' =+2 =29 <4'*< 4*' @3:4 3 +3' J3(39 @7 9 '))' 54 3 =+2 =29 354;3? : 45 +35 2 9+4 ' ?'9 2*/3 '* 4 +3 629 +'9

;3 (' ?3:'/'3*/(' /27932' +493' '563 :3/ '4*9' '*' +'9' =4 E'
=+'/+' '*' +3' 46'*'4*' 4:' +'9' /47* (53*' 52?3' +'5' 4*)('
2' 93/4*? 2 3' +'9 4 '2*' 3' :47*?' 3;3 (+'*<' '63' :4 '
?39 7/ '4*' '*' 2)' +3' 9 2 39' =+'/+' =3 3' 2: 3 =2 ?' 9=2)C
)4=3?' 76' '*' +3' 452*'356' 3'$ 2*?' 29' +3' =29' /4*9/'479'
+2 ' +3' +'593): ' 2)4*<' =' +' 2' ;3 (' :3=' E'*? 3?' 947)9 '
+2?' ;2'*)(' 39'9 3?' +3' 9 325 ' 29' +3' :3) ' @' 3 ' 9/4 *' :4 '
2))'/ 2 39 ' #'c79 ' ' 4)279 ' 2*?' +3' 4 +3 9 ' @(' =+493'
52*':4)?' ?3)'*R73*/'39' +3' /2)25 ' (' =29' @ 47<+ ' 4*' =+')3'
+3' 2?5' 3?' /'6'4' 2*?' 2 4' 2*?' 2*)79' d 2')'79 ' +'9' '*C
/4 76 '@)3' ,7?<353*' 4*' 9453' 4//29'4*9' +29' 54 3' +2*'
+3' 53 3')44E' 4:' =2* ' 4:' :33)'*<

+3' 54?3 *9' 2/+'2;3)' :4 ' '*9 2*/3' 2*?' 4* 39C
R7'37' 9335' 4' +2;3' 3;';3?' +2' R739 '4*' +47<+' '*' 2'
9453=+2' ?'::3 3*' 93*93' 2*?' /2 (' +3' ' 2?5' 2 '4*' 4:'
+3' 452*9' 2*?' +3' ' '*9 ' 7 '4*9' 4' 2' 6' /+' 4:' +3'
9 4*<39' 62 '2)' (' +3' 279 3 3' : 7<2)' (' 4:' +3' 2*/'3* '
367@)'/2*9' +3' ' /2 3)399*399' 2@47' +3' 6499399'4*' 2*?'
+3' 6)3297 39' 4:' =32) +' +3' 9 '/' 3<2 ?' :4 ')2=' 254*<'
+3' 6346)3' ' 9' 7*';3 92)' 9 3?:29')4(2) (' ?7 '*<' +3' +266('
/3* 7 '39' =+3*' +3' /4*9 ' 7 '4*' 2: 3 ' +3' 6 3 3*9'4*9' 4:'
+3' 2 '9 4/ 2/(' +2?' @33*' /7 @3?' =29' :)47 '9+'*<' '*' ' 9'
:7))' 63 :3/ '4* Y +3' 947*?' :33)'*<' =+'/+' *3;3 ' 25'?' '*C
3 *2)' ?'9/4 ?' 2))4=3?' 4:'-*' 26632)' 4' :4 3'*' '* 3 :3 3*/3 '
Y +3' 2@94)7 3' 356' 3' 4:' +3')2=9' 2*?' /79 459' 2*?' +3'
9 32?'*399' =' +' =+'/+' *3;3 +3)399' =+2 3;3 ' '*' +35' =29'
4')4<3 ' 3A63?'3* ' =29' 253*?3? Y +3' ='9?45' 4:' +3'
/4*9 ' 7 '4*' 2*?' 4:' +3')2=9 Y ' +3' '?32E' 63 :3/ '4*' 4:'
:4 ' 7?3' 32)'H3?' '*' +3' /' 'H3*9' 2*?' '*' +3' 9 2 3 Y '
2))' +393' R72)' '39' 7*R739 '4*2@)(' 3A/' 3' 2' :33)'*<' 4:'
3;3 3*/3' =+'/+' /2**4' @3' 2=!2E3*3?' 3R72))(' @(' +3

/4* 356)2 '4*' 4:' 2*(' 4 +3 ' 6346)3 ' +3' 9' =29' *4' 9 2 3'
4:' 7**2 7 2)' /4*9 2'* ' 97/+' 29' 7*?3 ' +3')2=9' 4:' 62 2'
=+3 3' '*' +3' 46'*'4*' 4:' 4 +3 ' 33E9' +3' /4* 356 ' 4:'
?32 +' =29' *2 7 2)' @3/2793' ?32 +' @7 9 ' 2*' '* 4)3 2@)3'
(4E3 ' ' =29' 2' 9(9 35' 4*' +3' /4* 2 (' =+'/+' :49 3 3?'
2' '/+' < 4= +' 4:' 73' '*?';'?72)' +266'*399' 4:' 52*)(' 3*C
,4(53* ' : 33' : 45' 93*972)' (' +3 ' /4*9 ' 7 '4*9' 63 C
+269' *4')399' 63 :3/ ' 6 4?7/3' 2')399' '5649'*<' 3::3/ ' 764*'
79!: 45' +3' +4*47 ' +3(' 62(' 4' =32) +' 2 '4*9' 4:' 52C
':4)?' /262/' '39' 2?' @74(2* ' 96' ' ' /2**4 ' 39/263' :27) 9'
: 45' =+'/+' 9'*<)3*399' 4:' 2'5' '9' +3' 4*)(' 6 393 ;2 ';3G'
2*?' '*' +3' 3;3* 9' 4:' '539' 629 ' =3' 2 3' 54 3' 93*9'@)3' 4:'
:27) 9' +2*' 4:' ?3:'/'3*/'39 ' +79' ' ' '9' R7' 3' *2 7 2)'
+2 ' 3;3*' 93 '*<' 29'?3' +3' 96)3*?47 .' =+3 3=' +' 64=3 '
2*?' ;'/ 4 '39' 2 3' 2)=2(9' 97 47*?3?' =3' 9+47)?')44E' 76'
2?5' '*<)(' 4' +3' 452*9' 4:' +3' <44?' '539' 4:' +3' 3C
67@)'/' +3(' @32 ' 2' <'!32 ' 3935@)2*/3' '*' +3' ' ;' 739'
4' +3' 2@9' 7*?3 ' +3' 32)(' /2)'6+9G @7 ' +3')2 3 '
+2?' *4' /4*9 ' 7 '4*' @(' =+'/+' 4' 52'* 2'*' +3593);39 '
?)3' 452*9' :4 ' /3* 7 '39' =3 3' /456 39 ' '* 4' 2' /45C
62/ ' @4?(G' +3' 2@9' =3 3' *3;3 ' +79' /4*/3* 2 3?G'
+3(' 9/2 3 3?' +3593);39' 2@ 42?' 4;3 ' +2):' +3' =4)?'
2*?' ?3<3*3 2 3?' 26'?)(' &3 ' 2: 3 ' 2))' ':' !3 @ '*<'
+493' 2<39' ;';'?)(' @3:4 3' 47 ' 5'*?9' 9453 +'*<' 4:' +4 B'
47 ' =')' 5'*<)3' =' +' 47 ' 2?5' 2 '4*' %4 ' +493' ;' 739'
: 45' +3' 32)'39 ' '539' =3 3')32<73?' 2*?' /456 45'93?'
=' +' +3' 549 ' :32 :7)' ;'/39$' '*92 '2@)3' 25@' '4*' 7*6 '*C
/'6)3?' /4* 356 ' :4 ' +3' '<+ 9' 4:' :4 3'*3 9 ' 7*:33)'*<' '*C
?'::3 3*/3' :4 ' +3' ' 97::3 '*<9 ' 2;2 '/3' 3;3*' =+')3' 26'*3'
=29' (3 ' 2' 9 2*<3 ' 2*?' 29' 2' /4*93R73*/3' 4:' +3' 93;3 C
2*/3' 4:' 2*E9 ' '*+752*' +2 ?+32 3?*399 ' *4 ' 4*)(' 4=2 ?

9)2;39 4 :4 3'*3 9 @7 3;3* 4=2 7 :3))4=/' 'H3*9 +493
;3 (;' 739 6 362 37 +3 =2(:4 2)) +393 ;'/39 4 <3
+3 529 3 (2*7 94 =3 3 +3593);39 9=2))4=37 76

4= =+')3 '* :4 5'*< 2,79 39 '52 34: +3 452*9=3
579 *4)493 9'<+ 4: +393 ?2 E 9+2?39 '* +3' /+2 2/C
3 2*7 579 +3 3:4 3)'5' ' 47 2993* 4 +3' 6 2'939
=3 2 3 2)94 :4 /3? +47<+ '* 2 ?'::3 3* 93*93 : 45 +3
33E9 4 29/ '@3 2)2 <3 9+2 3 '* 6 47/'*< +3' < 32 C
*399 4 :2 3 + 47<+ +3 =+4)3 4: +3' +'9 4 (=3
9+2))' 933 +4=: 4: 3* 2))' +3 ;' 739 4: +3 9 2 3 2*7 4:
+3 6346)3 =47)7 +2;3 @33* '*3::3/ 72)' 7*)399 ?39 '*(
+27 92;37 453 '* +3 63 ')9 2*7 62;37 +3 =2(:4
+3 '756+9 +3 *2 '4*9 2*7 +3 53* @3:4 3 =+45
453 5'<+ +2;3 B:2))3* 26632 37 44)2 3 * +3 63C
'4?9 4: +3 =32E*399 9+3 +27 4*)(4 :'<+ =' + 2?;3 C
92 '39 *4 =2(9763 '4 4 +3 $ 2*7 =+')3 453 9 2E37
3;3 (+'*< 4* +3 /29 2*7 =2 =29 +3 *2 7 2) 9 2 3
4 +3 *2 '4*9 +79@2*?37 +3' 3::4 9 @3/2793 +3(?3C
962' 37 4: ;'/ 4 (4 2 +3 @4 45 4: +3' +32 9)4;37
4 +'< @7 3::35'*2 3 9)4 + =+2 3;3 +3' '),7?<37 3*C
3 6 '939 5'<+ 9335 4 '56)(4 4*3 254*< +35
/253 2<2'*9 +3 =' + 2)'E3 96' ' 2*7 2)'E3 67 6493G
2*7 +'9 2)4*3 =29 3*47<+ 4 52E3 453 97@?73 +35
2)) +')'609 '*2/ '4* 2 +3 @3<'**'*< 4: +3 =2 =' +
2**'@2) Y +2 4: ' + '?2 39 94)4*< 29 +3 2 9''5
=2 + 32 3*37 453 2*7 2 9)'<+ 2??' '4*2) =3'<+
=47)7 +2;3 7 *37 +3 9/2)3 Y +393 2 3 3;3* 9 '* =+'/+
=3 /2**4 @7 3/4<*'H3 +3 :'*<3 4: 4?' %4 +2
453 =29 *4 *2 7 2))(7*/4*R73 2@)3 =29 ?354*9 2 37
@@(+3 '39'9 2*/3 4: 2 :3= 7)(=2)'E3 *2 '4*9 =+4
=3 3 4*)(4;3 64=3 37 @(9763 '4 ' (4: *75@3 9 2*7
:4 /3 9 ' =29 +4=3;3 3;3* +393 /4* 39 9 93 ;37 '*

+3 '* 3 ;2)9 @3 =33* +3 < 32 3 2*? 54 3 ?3/'9';3 4*39 4 E336 ?'9/'6)'*3 2*? +3 2 4: =2 : 45 ?3/)'*'*< 29 ?7 '*< 2)4*< 632/3 +3(*2 7 2))(=47)? +2;3 ?4*3 '* +3 452* 29 '* 4 +3 2 5'39

* +3 6 4< 399 4: 3;3* 9 =+3* +3 452* /4*R739 9 2''3 /4*94)'?2 3? '* 4 4*3 5299 +3 +'9 4 (3* ' 3)( )4939 +3 54 2) 2*? 643 '/2) ''f 3 39 4: +3 32)'3 /3* 7 '39 *?33? +'9 +2? 2) 32?(@33* ?'9 7 @3? :4 945 3 '53 @(/4*;7)9'4*9 2*? 2 4/' '39 2*? +3 ?3/2(4: 3;3 (*2C '4*2) ;' 73 933 5 9 4 @3 +3 /47 93 4: +3 +'9 4 (4: +3 =4)? +2 /4*R739 9 2*? ?';3 9 '* 3 5'A 7 39 2 3 4 :793 +3 *75@3)399 4 '<'*2) 2/39 4<3 +3 2*? 4 3A 3 5'*2 3 97/+ 29 /2**4 @3 252)<252 3?$ 2*? +'9 +3 452* ?45'*'4* +29 3::3/ 3? '* 2 < 32 3 3A 3* 2*? ?3< 33 +2* 2*(4 +3 ;29 <3*3 2) 3;4)7 '4* 3;3* +2* +3B 2@'2* 3)?45 =') 2 62 '/7)2 6346)3 @3 2 <2'*3 @(97/+ 2* '* 3 5'A 7 3 453 979 2'* +3 ' 362 2@)3)499 4: 2 *4@)3 *2 '4*2) /';')'H2 '4* 9/'3*/3 2*?)' 3 2 7 3 ;3* 2)399 /7) ';2 3? 6346)3 =') +2 ?)(:'*? +2 +3 3:'*353* 9 +79 '564 3? =+'/+ 54 34;3 ': +3(2 3 97' 3? 4 ' 9 <3*'79 ' 5'<+ +2;3 2 2'*3? 4: ' 93): =') 52E3 253*?9 :4 +3 :4 :3' 7 3 4: ' 9 4 '<'C *2))2*<72<3 2*? +3*/3 4: ' 9 4 '<'*2) /+2 2/ 3 ' 9 *2C '4*2) +'9 4 (2*? ' 9 +3 3?' 2 ( )2=9 +'9)499 =29 :' 9 :3) @(+3 452* 6 4;'*/39 7 +3 6467)2 '4* 4: 453 2*? 4: 2)(@3'*< 3/ 7' 3? 47 4: +3' '*+2C @' 2* 9 2*? 47 4: : 33?53* 453 97::3 3? '* 2* 3R72) ?3< 33 @3/253 94 39 2*<3? : 45 ' 9 32)('539 2*? +3' ' +'9 4 (+2 3;3* '* +3 +' ? /3* 7 (4: 47 3 2 2 +75@)3 62*3<('9 =' +47 :32 4: <';'*< 4::3*93 /47)? 3A6 399 2 ?47@ =+3 +3 +'9 529 3 =+45 +3 /4562 3? 4 +3 < g2 /'6'4 +2? 3 3 +32 ? 4: +3

93/4*? 7*'/ =2 .G 2*? "2)3*9 356)4(3? 7 46'79 4 ? 2= 76 2 532< 3 47)'*3 4: 452* +'9 4 (4 9766)(+'9 '<*4 2*/3 4: ' ' 3;3 +3)399 +47<+ +3 452* ?45'*'4* / 79+ 57/+ =3 579 :2 3:7))(2/E*4=)3?<3 =+2 ' / 32 3? 2*? 6 393 ;3? :47*?3? 4 '*:793?)':3 '* 4 2)549 2)) +3 4=*9 9 2*?'*< 2 +'9 ?2(=' +'* ' 9 2*/'3*)'5' 9)'3)2*<72<39 4: =39 3 * 7 463 96 '*<'*< : 45 +3 2 '* E36 ' 9)' 3 2 7 3 2//399'@)3 2*? 52?3 ' 9 3;';2) 6499'@)3 2(' ' =29 7*?47@ 3?)(+3 452* ?45'*'4* +2 6 393 ;3? 33/3 2*? +3 = ' '*<9 4: +3 33E9 %4 ': +3 29 +2? *4 @33* 6 4 3/ 3? @(+3 :4 /39 4: 2 < 32 356' 3 +3 @2 @2 '2*9 =47)? 6 4@2@)(+2;3 4;3 7* +393 ?36467)2 3? 2*? 3*C :33@)3? /47* '39 '* ;3 (32)('539 4 2 2)) 3;3* 9 '*:2))'@)(2 +3 63 '4? 4: +3 < 32 5'< 2 '4*9 2*? +3* 2)4*< =' + +3 ?3<3*3 2 3 33E9 =47)? +2;3 9=36 2=2(+3 3297 39 +3(=3 3 6 393 ;'*< :4 2 3;';'*< =4)? +3 452*)2= =29 2 < 32 2?;2* 2<3 2)329 :4 +3 452*'H3? *2 '4*9 *4 =')) +3 3 52*9 3;3 @3 2@)3 4 ?'963*93 =' + ' '$ 9'*/3 +3(+2;3 *4 52 7 3? +2 4: +3' 4=* 2*/39 4 9 2*? +2;3)49 ' 9 96' ' +2 +3 7*'4* 4: +3 452* =4)? =29 *3/3992 (4 +3 96 32?'*< 4: 3)'<'4* +2 453 29 ' 9 /3* 3 3*C)'<+ 3*3? 2*? 94: 3*3? +3 =+4)3 39 ;?)) 9/2 /3)(@3 R739 '4*3? 4 ?3*'3? *4= @(+3 ' 662 '2E +79 =3 /2*)44E @2/E 4* +'9 < 32 63 '4? 4: +'9 4 (=' + +3 /4*94)'*< +47<+ 2 +2 +3 <3*3 2 '4*9 96 7*< :'!45 +493 =+4 97::3 3? 2*? 63 '9+ =3 3 +3 <2'*3 9 @(=+2 =29 :'*2))(39 2@)'9+ ' '9 '?)3 4 2)E 4: 6499'@)3 3;3* 9 =+'/+ =3 3 9 ':)3? '* +3 <3 5'G 94 =3 =') *4 ?36)4 3 +2 2)) +2;3)49 52*(2* 7* 36)2/3? 2*? '' /6)2/32@)3

> 2*3<(2A'5'2*''

3297 3G =3 =)) *4 29E =+3 +3 +3 ! '/+39 / 46 4:
<44? +2 2: 3 B2<39 52(+2;3 326 /2* /4563*92 3 :4
+3 97::3 '*<9 4: ?4=*B 4??3* <3*3 2 '4*9 2))3;3* 9
=3 ?4 *4 7 * 2=2(47 3(39 : 45 +493 '539 = + 94
57/+ 4: <)445 2*? ?47@ 29 : 45 +3 :2 3 4: ?3;29C
2 3? 2*? ?394)2 3? 9'2$ =+493 :2' 39 3<'4*9 2@2*C
?4*3? 3;3* @(@3 ;' 2) 64=!3 9 4: *2 7 3 2*? ?('*<
2=2((32 2: 3 (32 2 3 9+7 47 : 45 +3 ;3 (6499'C
@')' (4: 54 3 6 4963 479 '539 Y =+3 3 +'9 4 (/)4939
'* +3 < 2;3

: +3 3 52* *2 '4* +4=3;3 =' + 3<2 ? 4 97/+
4: ' 9 2/39 29 ?'? *4 :4 92E30 +3' +453 4 ?'? *4
? 46 +3' /+2 2/ 3 =+')3)';'*< 254*< +3 452*39R73
*2 '4*9 +3(+2? /4*R73 3? =3 52(2993 +2 :4 +3
=2 =+'/+ +3(=2<3?J ?7 '*< /3* 7 '39 2<2'*9 453
+3(+2;3 '* 2: 3 '539 @33* 54 3 +2* 3=2 ?3? @(+3
@3*3:' 9 2// 7'*< : 45 +3 7*'4* 4: +3 =4)? 7*?3
453$ 2*? +2 =' +47 +'9 2*? +3 : 7' 9 +2 '63*3?
'* ' =3 9+47)? +2 ?)(+2;3 /329 4 @3 @2 @2 '2*9 =29 *4 @(+3 :4 59 =!+'/+ 47 2*/39 4 9 2 +3 ?'::7C
9'4* 4:)3 3 9 '564 3? : h5 +3*/3 2*? : 45 /)299'/2)
<'B47*? +2 +3 *4@)3 63/7)'2 '39 4: 47 *2 '4*2) <3C
*'79 63/7)'2 '39 :4 =+'/+ *4 +'*< /2* /4563*92 3 =!3 3
954 +3 3?G +493 :4 59 =J3 3 *4 ' 3/4*/')2@)3 =' + +35
7 93/4*?+2*? 2 ':'/'2) 96' ')399 % 3*/+':'3? :4 59 2*?
29 39 2*? '?329 97/+ 29 3;3* '* 32)'3 '539 +2? / 36
'* 254*<9 79 2*? 4;3)2'? +493 =+'/+ =3 3 +45396 7*<
+393 2 3 +3 +'*<9 +2 :4 2)4*< '53 +2;3 52?3 79
)7E3=2 5 2*? 7**2 7 2) *? 94 =+')3 4 +3 *2 '4*9
)44E @2/E 4* +3 452*9 29 +4)?'*< 2 6)2/3 254*<
+3' 6 4<3*' 4 9 =!3 44 +2;3 *4 9)'<+ 63 94*2) '* 3 39
'* +3' 9 4 (

Q=3))' 39' 4:' 6467)2 ')3<3*?9' 7*?3 ' 2' ;2 '3 (' 4:' :4 59 '
2 3' /45@'*3?' =' +' +3' 47)'*39' 4:' ? (' /+ 4*'/)39 ' 2*?'
+3' 9/2* (' 397) 9' ? 2=*' : 45' 27 +3* '/' ?4/753* 9' @('
4*3' 4 ' =4' <3*7'*3' +'9 4 '2*9 ' : 3*' +3(' 2 3' ' 3C
/4*/')2@)3' 2*?' 52(' 329')(' @3' ?'9/3 *3?'$ @7 ' 2 ' '539'
+3 3' '9' 2' ?3/3' :' ' /4*< 7' (' *' *4' +'9 4 (' '9' ' ')2 3 '
/4562 2 ';3)(' @3:4 3 =3' 32/+' =+2 ' '9' 2/ 72))(' /3 2'*'
'))' +'9' ?439' *4 ' 52E3' ' ' *3/3992 (' :4 ' 79' 4' <';3' 76'
+'9' 549 ' '564 2* ' 4:' 2 ' +'9 4 '39' 29' +463)399' :4 ' +3' ›
52'*' 62 ' 4:' ' 9' ?'52 '4*' 4;'?3?' +2 ' =3' ?4' *4 ' 93 '
76' 2*(' 6 3 3*9'4*' 4' 2' 5'*7 3' 3A2/ *399' '*' 52 3 9' 4:'
?3 2') ' =+'/+' '*' 7 +' '9' 4:' *4' ;2)73' 4' 79' 57/+' 52('
@3' 29/3 2'*3?' 3;3*' '*' +493' ?2 E' 63 '4?9 ' 4*' +'9 4 '/2)'
3;'?3*/3' 29' ;2)'?' 29' =3' 6499399' :4 ' /4* 3564 2 (' 3;3* 9'
'*' 33/3G' 2*?' +'9' =3' /' 3' @47*?' 4' 2 356 '
' '9' '*' 52E'*<' 47 ' +3' '* 3 *2)' +'9 4 (' 2*?' /4*C
?' '4*' 4:' +3' 9 2 3 ! +2 ' =3' 52(' @3' +3' 549 ' 97//399:7)$'
3;3*' 54 3' 94' +2*' '*' 9'5')2 ' '*R7' '39' /4*/3 *'*<' +3'
33E9 ' %3=' *2 '4*9' +2;3' @ 47<+ ' +3' ' 3A'9 3*/3' 4'
2!' /)493')'E3' +3' 452*9 ' =' +47 ' ' 9 ' @3'6<' /7 ' 9+4 '
@(' +3' ?45'*'4*' 4:' 2' 9 2*<3 G' 254*<' +393' :3=' *4*^'
+29' 52'* 2'*3?' 97/+' 2' :7)R399' 4:' ;'<47 ' 4' 4 +3 '
9 2 3' 3;3 ' 3A'9 3?' 94')4*<' 6 393 ;'*<' 2))' +3' 3)353* 9'
4:' ' 9' /4*9 ' 7 '4*' 7+3A '*<7'9+ ' 753 479' 2*?' 52*'C
:4)?' : 45' +3' :' 9 ' +3(' 2))')29 ' '))' +3' ' *2 7 2)' ?3C
/3293G' =+3*3;3 ' 2*(+'*<' 47 +;39' ' 93):' ' ' '9' 354;3?$'
2*?' 9453 +'*<' 9'5')2 ' '9' 3;3 ' 6)2* 3?' =+3 3' 2' 962/3' '9'
)3:' 356 (' 4 ' =+3 3' *3=' < 47*?' ›+29' @33*' 3*/)493?'
+79' +3' 9 2 3' 3 2'*9' ' 9' (47 +:7)' ;'<47 ' 2*?' /4* 'C
739' 97@9 2 '2))(' +3' 9253' =+')3' 63 63 72))(' 3*3='*<'
' 93):G' 7* ')' 2 ')3*< +' ' ' /4539' 4' 2' 9 4662<3' 2*?' 2'
9 2*?9 '))$' 2*?' +3* ' 9' '*?39: 7/ '@)3' 3*3 <(' '9' :4))4=3?'
:' 9 ' @(')2*<747 i' *3A ' @(' 2' ?32?)(' 9'/E*399 ' 7 !' ?'5C
'*<' +3' ;3 (' j<39' =+493' 9 4 (' =3' /2*' +2 ?)(' ?4' 54 3'
+2*' <739' 2 ' +3 3' =29' 97/+' 2' 6 464 '4*' 2*?' /4 C
3964*?3*/3' 254*<' +3' ;2 '479' 62 9' 4:' +3' /4*9 ' 7C
'4*' +2 ' J+3*' 2' :3=' 2/39' 2*?' 352'*9' :'* 3))'<'@)3

'564 ' +2;3' @33*' @ 47<+ ' 4')'<+ ' 92:3' 2*?' /3 2'*' /4*B!'
3)79'4*9' 52(' @3' ? 2=*' : 45B' +35' /4*/3 *'*<' 4 +3 '
+'*<9' : 45 '=+'/+' =3' +2;3' *4' 532*9' 4:' /)32 '*<' 2=2('
+3' 7@@'9+' 4 ' 4:' =+'/+' +3')4=39 ' :47*?2 '4*B9 4*39'
+2;3' @33*' 45' 76(,79 ' 29' '*' 52 +352 '/9 ' ':' 2' :3='
64'* 9' 2 3'<';3* ' =3' 52('?'963*93' =' +' 2*' 2/ 72)' 53297 3(
53*

9' ';3 9' :)4=' '* 4' +3' 932 ' 94' ?439' +3' +'9 4 (' 4 :!!'
2))' +3' *2 '4*9 ' E*4=*' 4' +2;3' 3A'9 3?' 6 3;'479)(' '*' +3'
3<'4*9' 2 47*?' +3' 3?' 3 2*32*' 3 5'*2 3' '*' +2 ' 4:'
453 ' 2*(' 26632 ' '*' ' ' 4*)(' 4' 63 '9+' :4 +=' +' '
,'3 9' 52'* 2'*' +3' ' 3A'9 3*/3' :4 ' .2 =+')3 ' 549)(' '*'
2' 9 7<<)3$ @7 ' +3' /4* 2/ ' 944*3 ' 4 ')2 3 ' 6 4;39' :2 2)'
4' +35 ' ' +'9 4 '2*' 4:' 453!' 579 ' *4 ')32;3' +493'
=+4' ='9+' :4 ' 97/+' 2*' 2//47* ' 29' 9+2))' J;3' 532*'*<' 4'
+3' *2539' 4:' +393' *2 '4*9 ' 2*?' :4 ' 2' '3=' 4:' +3' '
/4*?' '4*' 2*?' /+2 2/ 3 ' 4' 933E' :4 .' ' '*' 4 +3 ' =4 E9 '
=+3 3' ;3 (' 6 4@2@)(' +3(' 52(' *4 ' @3' :47*?' '9' @79'C
*399' '9' 4' 3A+'@' ' +3' @39 ' E*2<3B' 4J' +35' +2 ' 3932 /+'
2*?' 3:)/A'4',' /2*' 6 4?7/3$ 94' +2 ' +'9' 32?3 ' 52(' *4 '
4* 3* ' +'593):' =' +B' 2*' 356:(' *253 ' 4 ' =' +' *4 '4*9'
/27<+ ' 76' 2 ' 2*?45 ' /

';(' +2?' *4' 97/+' 2'59 ' +2 ' 54;3?' +'5' 4' = ' 3 '
=29' +2 ' *2 7 3' +2?' 3*?4=3?' +'5' =' +' 2' @ '))'2* ' 2C
)3* ' :4 ' +3' 36 393* 2 '4*' 4:' /+2 2/ 3 ' 2*?' :4 ' *2 2C
'4*'$ '=' +' +3' '52<'*2 '4*' 4:' 2' 643 ' +47<+' 3' +3 '
=' +47 ' +3' 64=3 ' 4 ' +3')4;3' 4:' ;3 9':('*<' 3' = 4 3 '
=' +47 ' 2*(' 649' ';3' :33+*<' =+3 +3 ' 4:' ?47@ ' 4 ' /4*;'/C
'4*' @ '*<'*<' ?4=*' +3' 52 ;3)9' 4:' +3' +3 4'/' 2<39' '* 4'
+3' 96+3 3' 4:' +'9 4 ($' 29' =29' /4554*)(' ?4*3' 3;3*' @('
+493' =+4' '*' =+2 ' @3)4*<3?' 4' +3' ' 4=*' '539' 2*?' 3AC
63 '3*/3' ':2 ' : 45' / 3?7)479' 2 'B2' 63 '4?' =+3*' +3'
+47<+)399' @3+3:' 4:' /+')?+44/W /4* '*73?' 7*?'9 7 @3?'
+ 47<+47 ')':3' ;3*' +493' 6 '5' ';3' 2<39' =+3*' +3'
<4?9' =2)E ' 2@47 ' 254*<' 52*E'*?' +3!' =47)?' *4 ' 2@94C
)7 3)(' 3,3/ ' +2 3;3 ' =29' 3)2 3?' 4:' 54 3' 3/3* '
'539' 6 4;'?3?' ' ' =29' *4 ' '*/4*9'9 3* ' =' +' +3')2=!9' 4:
'

52*0(/4*?' '4*(4*(32 +' +3(53 3)(' +3)?(4(+3( )399(:7))(2*?(/3 2'*' @7' 4:(+3(9253(E'*?(=' +(+3(3/4 ?9(4:(2// 3?' 3?(+'9 4 (' +3(/4*9 ' 7 '4*(! +3(2) 4<3 +3 ' *3<)3/ 3?' 3A/36 ' =+3*(:4 /3?(4(9632E(4:(' ' @(' +3('*C 3 *2)(?'993*9'4*9' *(97/+(4//29'4*9(+'9(;'3=9(2*?(,7?<353* ' =3 3(@'29' @(' +3(6 3,7?'/39(4:(+3(62 (' +3(+2?(@33*(2 2/+' 4(9'*/3(+3(32)'39' 3/4))3/ '4*9(4:(+'9((47 +$ 2*?(+79(+3('@3/253(+49 ')3(4(+493(=+45' : 45(+3' ' @32 '*< +3(9253(*253' +3(3<2 ?3?(29('*(:2/' +3(9253' =' +(+493(+3(,79)(' ?3353?(+3(=4 9' 254*< +3(/4*:)'/ '*<@2?('*(+3('539(4:(<3*3 2)B/4 76 '4*' 4 3C 4;3 ' +47<+('*(+'9( )2 3 ' @44E9(+3(<2;3(?39/ '6 '4*9(4:(7*E*4=*(/47* '39' 29(:4 ' '*9 2*/3(4:(' 2'*' ? 2=*(: 45(4 2)(2//47* 9' (3 ' +3(Q 44E(*4(62'*9(4(6 4/7 3(2*(' ?'9C '*/' /4*/36 '4*(4:(+3(*2 '4*9(4 ' 9 2 39(+3(+2?(4(9632E(4:('*(+3(3543 ' 2<39

'9(='9+(=29' 4(7 *(2=2(' +'9(+47<+ 9(: 45(+3(?3<3*3 2/(' 4:(+'9(4=*(?2(9' =+')3(3;';'*< +3(<)4 '39(4:(+3(629 $(2*?(+3(3293(2*?(93/7 ' (' =+3 3'*(+3(=32 (' =4)?(=29(2')3*< +(@3<'**'*< 4(@ 32 +3(2<2'*' /47)?(*4' @7' /45:4 ' +'5' '*(+'9(94 4=(=+3*(64 2(C '*< +3(:32 :7)(3;3* 9(4:(+3(/';')(=2 9' 3(=29(?3C 9' 479(4:(32/+'*< +'9(/47* (53*(4(E*4=(2*?(2?5' 3(+3(?33?9(4:(+3' ' 2*/39 4 9' =+'/+(+2?(@33*(:4 <4 3*' 4 ' =3 3(3/4 ?3?(4*)(' '*( )'96'*< *2 2 ';39$ 2*?(+3(3* '/+' +3' ')' 3 2 7 3(=' +(2(/4)4992)(529 3 =4 E' =' +(=+'/+(+3(33E9(+2;3(*4 +'*< 4:(+3(E'*?(4(/4562 3$ *4 ' /2*(2*(' 54?35' 6346)3(6)2/3(2(9'5')2 ' =4 E(@(' ' 9(9'?3' :(2))(+3( )49939(+2 ' +2;3(@3:2))3*(79('*(452*( )' 3 2 7 3' +3(< 32 39 ' '9(+2 ' =+'/+(+29( )3:' +'9(+'9 4 (' '563 :3/:/

&3 ' 3;3*(':(+3(=+4)3(+2?(@33*(6 393 ;3?'-;3(9+47)?(9 '))(+2;3(+2?(4//29'4*(4(/456493(2(+'9 4 (' 4:(453(97' 3?(4(47 ' =2* 9' %4 ' '*(4 ?3 ' +2 ' +3(9 4 (' 4:(2*(2<3(+2 ' +29(629 ' 2=2(' 52(' 3935@)3(+2 ' 4:(47 ' 4=*(2<3 Y '*(4 ?3 ' +2 ' +3(+3 439(2*?(62 '4 9(4:(453(52(' '93(76(@3:4 3(47 ' ;'3=' *4 ')'E3(') 4*0(2*<3)9

@7 ' 29 @3'*<9 4:' 47 ' 4=*' :)39+' 2*?' @)44? Y =3' 3R7' 3'
9453 +'*<' 54 3' 2*?' 9453 +'*<' 3)93 ' 4;3 ' 2*?' 0 2@4;3'
=+2 ' =3' :'*?' '*' +'9' '*'5' 2@)3' *2 2 ';3 ' ;3 (@4?('
44' 579 ' 63 /3';3 ' +2 ' '*')''9' *2 2 ';3' +3 3' '9' 57/+'
=+'/+' *4=' 3'<+ 33*' +7*? 3?' (32 9' 2: 3 ' =')' *4 ' ?=3))'
'*' +3' 5354 (' 4:' 2*(' 32?3 ' +4=3;3 ' '* 3 39 3?' '*'
> +3' 97@,3/ ' +3' ?3;'9'*<' 2*?' :2@ '/2 '*<' :4 ' 47 C
93);39' +3' =2* 9' 4:' 2*4 +3 T'2<3' 3;3*' +47<+' =3' 52('
2*E' ' ' +'<+3 ' +2*' 47 ' 4=*' 2*?' +3' ?'9/)2'5'*<' 2*?'
3<)3/ '<' +3' =2* 9' =3' 2/ 72))(' +2;3' 2 3' +2@' 9' +2 '
3*?3 ' 79.' +3)6)399' 2*?' ,4()399 ' 2*?' 2 3' /+')?'9+' 4'
;'3' =' +' ';(' 29B!2' +'9 4 '2*' 4' :2*/(' +2 ' +3')49 ' 64 C
'4*9' 4:' +'9' =4 E' 5'<+ ' @3' 36)2/3?' ':' 47 ' 52 3 '2)9'
=3 3' 54 3' 2@7*?2* ' =47)?' @3' '?'/7)479' 7 ' +3 3' '9'
4' 6 39756 '4' '*' 7*?3 2E7'<' /2 3:7))(' 2*?')2@4 '479)('
4' 3A25'*3' 4' /45@'*3' 2*?' +79' 4' '*:793')':3' '* 4' 47 '
644 ' 2*?' : 2<53* 2 (' *4 '/39$' '*' +3' +463' +2 ' @(' +'9'
6 4/399' ?7 '*<' +3' 63 '4?9' =+3 3' =3' +2;3' *4 +'*<' @3 C
3 ' 97/+' 2*' '52<3' 29' '9' 329')(' 6 4?7/3?' =+3 3' +3' 52C
3 '2)' '9' 6)3* 3479' 2*?' :'*3' 52(' 9 '))' /453' :4 +' +;'*<'
2*?' /456)3 3' '*' 2))' ' 9' 3993* '2)' 535@3 9

4=' :2 ' ' 52(' 97//33?' =')' @3' ?3 3 5'*3?' @(' 2'
+'<+3 ' 64=3 ' 4' +393' 3932 /+39' +4=3;3 ' ' 4=3' +3'
549 ' 2*'52 3?' ?2(9' '*' +3' 6 '53' 4:' 5(')':3$' 2*?' 9'*/3'
+3' /4* '*72 '4*' 4:' +'9' =4 E' =')' 356)4(' 5(' 4)?' 2<3 '
29' ';(0' / 32 '4*' ?'?' +'9 ' ' '9' 2' 6)3?<3' +2 ' 5(')2 C
3 ' (32 0' =')' 2)94' @3' 2/ ';3' 2*?' /+33 :7)' 3' =+4'
/2))9' ?362 3?' 2<39' @2/E' 2<2'*' '* 4' @3'*<' 3*,4(9' 2' @)'99'
)'E3' +2 ' 4:' / 32 '*<' ' =47)?' @3' 2' < 32 ' +'*<' ':' '
/47)?' 9/2 3 ' +3' 5'9 ' =+'/+' +39' 764*' +'9' 549 ' '5C
64 2* ' 64 '4*' 4:' 2*/'3* ' +'9 4 (' 2*?' /47)?' 96 32?' 2'
/)32 ')'<+ ' 4;3 ' ' $' 94' +2 ' +3' 452*9' 5'<+ ' 9 2*?'
@3:4 3')'3' 3(39' 4:' 5(' 32?3 9' ?'9 '*/ ' '* 3))'<'@)3' :2C
5')'2 ' 29' /4* 3564 2 '39' =' +' +3' ' '*9 ' 7 '4*9' 2*?' +3'
;'/'99' 7?39' 4:' +3' ' ?39 '*(')';'*<' 2*?' 54;'*<

A' ' &

' 452 ' 2 3 *4 ' 2//47* 3? 4 @3)4*< 4 2*(' 4:' +3 2)'2*' *2 '4*9' ;3*' +3 = ' 3 9 =+4 2)E' =' +' / 3??)479 9'56)'/' (' 2@47' +3 6346)3 4:' 457)79 29 2 /4)4*(' : 45')@2' *3;3 ' 3/E4*' +35' 254*< +3 2 '*96 2*? '*' +3 2?' '4*9 /4*/3 *'*< +3' ' 32)'39' 2<39 +3(' 2 3 36 393* 3? 29 3R72))(' 9 2*<3 9 4 2)' +3 + 33 *2C '4*9 25'?' =+'/+' +3' ' /' (' 9 44?' 3*/3 +3' ' +'9 4 (' ':' ' 53 3)(' 2'5' 2' <';'*< 2*' 36'/2)' *2 2 ';3 4:' 2/ '4*9 2*? 3;3* 9' 52(' /3 2'*)(' 9 2*? 2)4*3C 2*? +79 2)549' 2))' +3 2*/'3* 9 =+4 32 3? ' ' 93;3 3? ' ' : 45' +2' 4:' +3 39' 4:' 2)(' 7' 4 *4 <)4 (' +2? +3 452*9)399 /)2'5' +2*' 4 +2' 4:' +3 +3*'2*9' 4:' @3'*< 2*' 4 'J*2)' 2*? 63/7)'2' 6346)3' :' +3(' @3)4*<3? 4 *4 *2 '4*' ' '=29 4*)(' @3/2793' 29 3;3*' +3' ' :2@)39 2*? ?'9C :'<7 3?)3<3*?9 3*2@)3 79 4 63 /3';3' +3(' 2 493 : 45' +3 /42)' '4*' 4:' 93;3 2)' +2' =3 3 3* ' 3)(' ?'9 '*/' : 45' 4*3 2*4 +3' ' 2/+' 4:' +393)3:' ' 9 63/7)'2' '*+3 ' 2*/3 4:')2*<72<3' '*9 ' 7 '4*9' 2*? 3)'<'4*' 4 +3 *3=' 634C 6)3$ =+'/+' '*' +3 52'*' :32 7 39 4:' ' 9 *2 '4*2)' /+2 2/ 3' =29 2997 3?)(' 2)=2(9 7*)'E3 2*(' 4:' ' 9 62 3*' 2/39' +3

(, -' +"-' ', 1' 7.028:' 60.' ', 1' (08'145'202-' "--1.' 08 4 ":1')*' (1.'" 8' -5 '162!' C.11D-/ +, (,' 08*- 2-' ".721-' "7" 8-'/ ', "*' ', 1' 04"8-' +1.1' 8E 8"' 08 "*' "!!/)2"*' (086!2;' 06'02'("-'-' 6.04' "!' -0.'-' 06 5105!1/ ' 8 ' F# *' -' ', 1' -"41' '"28" 6.04' +, (,' 0G -15,2-' '. 1-' '0' :1618:' , -' (028'.*' "7" 8-* 5 08/ +,0' 4 " 8'" 81:' + ', 700:' .1"-08 ', "*' 42(,' ', 1' !".71-" 5".' 06' ', 1' 1+-' 8' H"!1-' 81' "8:' 7*5" +1.1' 80" -5.287' 6.04' ', 1' -4"!' (0!08*' -18*')"(D' 8'0' 2:1"' 28:1.' ', 1' H1.- "8-/)2" 6.04' 8: @ :2"!' 5.0-1!*'1-' 5 08')1!0871:' '0' "' 5105!1' +,0' ,":' D15" ', 14-1!@1-' 224 ;"3 "8:' 6.04' , 4' ', 1' (08G '145" 60.' "8"' 08' + ', 02" "51: 7.11' -' 8'1!! 7)!1'? 8' C.11D-' *' +"-' -, 11.' 4"! (1

6 3;'479 +'9 4 (4: +493 *2 '4*9 =47)? +3 3:4 3 +3 2
:' '*< 6 362 2 '4* :4 +2 4: 453 3;3* ': +3)2 3
+2? *3;3 3A 3*?3? @3(4*? +3 /' (7 +3 '@39
+2 6346)3? 2)(=3 3)49 '* +3)'<+ 4: +3 /' ($ 2*?
+3 *2 '4* :4 53? @(' 9 /' 'H3*9 96 32? ' 93): + 47<+47
J +3 =+4)3 63*'*97)2 +3 452*9 =+493 9 4 (=3 E*4=
: 45 /4* 3564 2 '39 =3 3 ?39/3*?3? =' + ;3 (:3= 3A0
/36 '4*9 Y 254*< +3 5293 9 '* 4 2 4 (4 643 (+3 3
'9 *4*3 @7 392 Y$: 45 2))'3? *2 '4*9 =+'/+ +2? @33*
'*/4 64 2 3? 3*/3 =3 /2**4 266 4;3 4: +3 /47 93
:4))4=3? @(+3 2*/'3* +'9 4 '2*9 =+4 2 3*?'*< 4*)(
4 +3 9 325 =+'/+ <2;3 *253 4 +3 ';3 4;3 B
)44E 2)) +3 '@7 2 '39 3;3* 97/+ 29 =3 3 :2 54 3
64=3 :7 3 52(2*? 579 /3*97 3 +493 =+4
=+')3 +3(3/4 ?3? 2)39 =+'/+ +2? 53 3)(2 9)'<+
)4/2) /4**3A'4* =' + 453)3: +3 9 4 (4: +3 :2)) 4:
+3 5@ '2*9 2*? 4: +3 '93 2*? < 32 *399 4: +3
2@3))'2*9 2*? 79/2*9 4 9'*E '* 4 4@)';'4* 4
=47)? +3 +'9 4 (4: +393 *2 '4*9 '* 3 39 79 94)3)(: 45
+3 '564 2*/3 4: +3 3;3* 9 '/3 4 +'593): 2 "4)B
9/'2* ?3/)2 39 +2 +'9 /47* (53* 2*? +3 2@'*39 29
=3)) 29 25*'75 2*? 7 '2 +2? *4)399 3294* +2*
453 4 @429 4: +3' ;'93 2*? < 32 53*G *4 /2* '
+2;3 @33* +3 4* '" 2)4*3 =+4 2'93? +3' *2 '4* 4
2)3;3 =' + +3 452*9 7 2* 4@9/7 3 3/4))3/0
'4* '9 2)) +2 +29 352'*3? 4: +3 +3 439 2*? 92<39
4: +3 2)'2*9 2*? 79/2*96 9/2 /3)(+29 2 ?7@'479
253 @33 2*(=+3 3 6 393 ;3? ' + 3<2 ? 4 +3 ?':0
:3 3*/3 4: +3 2/39 +4=3;3 +3' 5'< 2 '4*9 2*? /4*0
R739 9 62 '/7)2 9 2 353* 9 2 3 4 @3 :47*? 9/2 3 3?
4;3 2)549 +3 =+4)3 :'3)? 4: 2*/'3*)' 3 2 7 3 29 =3))
29 4* B54*753* 9 4 /4))3/ +393 2*? =3'<+ +35
/2*?'?)(2*? +79 4 4@ 2'* 9453 E'*? 4: 97@9 ' 7 3
:4 +3 '*:4 52 '4* =3 2 3 7*:4 7*2 3)(?39 ' 7 3 4: '9
+3 54 3 *33?:7) @3/2793 +393 97@,3/ 9 +2;3 2)=2(9
@33* 32 3? 2 @' 2 ')(=' +47 ,7?<353* *2(44 4: 3*
?'9+4*39)(+393 '*R7' '39 2*? 97/+ 2//47* 9 29 /2*

@3 ? 2=* : 45 +35 :4 5 2 *3/3992 ('* 4?7/ '4* 4 2 452* +'9 4 (@(2 54?35 = ' 3

2 4 +3 /3*94 +3 :' 9 63 94* 2662 3*)(=+4 = 4 3 +3 +'9 4 (4: +'9 /47* ('* 2 '* 2*? '* 6 493 '* 3 C =4;3 '* ' 4* +3 4//29'4*9 29 ' =47)? 9335 =+3* +3 93;3 2) *2 '4*9 2*? /' '39 4: 2)(/253 '* 4B/4* 2/ =' + +3 452*9 =+2 +3 +2?)32 * /4*/3 *'*< +3 4 <'* 2*? 54;353* 9 4: +3 :4 53 2*? +3 :47*?2 '4* 4: +3)2 3 . 4 +'5 =3 4=3 2)2 <3 62 4: =+2 +29 /453 ?4=* 4 79 4* +393 97@,3/ J 3;3* =+3* ' '9 *4 3AC 6 399)(3:3 3? 4 +'5 +3 '53 =+3* +3)';3? =29 ;3 (:2;4 2@)3 4 +'9 7*?3 2E'*< +3 59/2*9 9B /2*9 2*? 2@3)+2*9 =3 3 9 '))' 3A'9 '*< 29 *2 '4*9C 2*? +47<+ +3 @3'*< 2 452* /' 'H3* =29 39 3353? +3 +'<+39 4: 2))' 6 ';')3<39 +3 ?'<*' (4: +3 4 +3 9 2 39 +2? *4 (3 ?'926632 3?$ *4 +2? +3 3/4))3/ '4*9 4: +3' 4)? '539 @3/453 '*?':'3 3* 4 +3)2 3 <3*3 2C '4* +393 *2 '4*9)'E3 453 +2? +3' :29 " 2*? /+ 4*4)4</2)' 3<'9 3 9C +3' 2**2)9 2 3 /' 3? .G 2*? '* 6)2/39 =+'/+ +2? *4)'E3 453)49 +3' 4)?)2*<72<3 2*? 53 3)(6 393 ;3? 2 :3= : 2<53* 9 : 45 +3 = 3/E 4: 3;3 (+'*< +393 52(+2;3 <4*3 :7 +3 @2/E +2* +3 452* :+3(53 3)(< 3= 76 : 45 (32 4 (32 ;5?3 +3 +2*?9 4: +3 52<'9 2 39 4 4: +3 6 '39 9 +3(579 +2;3 @33* 9/2* (@7 94 :2 29 +3(=3* +3 54 3 27 +3* '/ +3 3 '9 2 ;3 (< 32 6 4@2@')' (+4=3;3

A 18(1/ + ', ', 1 1;(15' 08 06 -2(, "-(08(1.81:' ', 1 72. "8- "8:' ', 1 !5 81 '.)1-/ ', 1-1 -D1'(, 1-6028:' 5!"(1 5".'!*' 8 ', 1 6 .-)00D/ +, (, (08'" 81:' ', 1 , -'0.*' 06 ', 1 D 87-/ 5".'!*' 8 ', 1 81; '+0/ +, (, .1!"'1:' ', 1 '"! "8 +".- , -' : @ - 08 -' 1@ :18'!*' ', 1 40:1! (05 1:')*' 55 "8 8 "..'87 87 ', 1)00D-' 06 , -' , -'0.*/ ', 1 6 .- ', .11 06 +, (, 14)."(1 ', 1 -"41 -2)I1('- 18(1 "'0J- : :' 80 60!!0+ ', 1 0.:1.' 06 ' 41/ 28!1-')*' "((:18'? 60. 8-'"8(1// ', 1 !!*. "8 +".' 42- ,"@1 0((2..1:' 8 ', 1 - ;',)00D/ 80 8 ', 1 6 6',

AH.181-' 81)00D-/ ', 027, 8 ', 1 "' 8 !"872"71 8:11:/)* 0! 82-/ 5 F C 3 " , -'0.*' 06 24"/)* 1-'2-/ @ 04"4 , 1 '.2-("8 "88"!- + !!)1 -50D18 06 , 1.1"6'1.

+2 ' 254*<' +3' 9/2*9 ' =+4' =3 3' !:25')'2 ' = +' +3' 2 9' 4:' 33/3 ' 2*?' 254*<' +3' 947 +3 *' 2@3))'2*9 ' =+493' /7) ';2 '*<' 33E' 6+')4946+(' 3;3*' 29' 27 +4 9' '9' 2997 3?)(' 9453 +'*<' 54 3' +2*' 2' 53 3' < 47*?)399' :2@)3. ' +'9 4 '2*9' @4 +' '*' 33E' 2*?' '*' +3' ' *2 ';3')2*<72<3' 579 ' +2;3' 2 '93*')4*<' @3:4'$6' +3' /4553*/353*' 4:' 2')' 3 2 7 3' 2 ' 453 ' +2 ')' 3 2 7 3' =29' '*' ' 9' (47 +:7)' 6 '53' 6 '4 ' 4' +3' 2 9'/' =2 6 (3 ')32 *'*<' 2*?' +3' +3 4 '/2)' 2 9')' 3' 92'?' @(' /3 4' 4' +2;3' @33*' '*' 2' 9 '))' 54 3' :)47C '9+'*<' 9 2 3' 254*<' +3 ' 2 '*9 I $ 7*?3 ' =+'/+' *253' +3' 2 ')329 ' '*/)7?39' 2))' 97/+' 2)'2*9' 29' +2?' 2?46 3?' +3' 793' 4:' +3' 2 '*')2*<72<3 ' ' ='9+' 3A6 39 ' @(' 2')32?C '*<' 63 94*2<3 ')'E3' 2 4 ' 4' +2;3' @44E9' /4557*'/2 3?' 4' +'5 ' 2*?' =+3 3' *33?' =2J' 2*9)2 3?' =47)?' @3' 2' /4552*?' 4' +3' 97@,3/ 9' 4:' 453

'<'*2)' ?4/753* 9' 5'?' '*9/ '6 '4*9' 4*' @ 299' 2*?' 9 4*3' 9766)'3?' 9 ' ' '/+3 ' 2*?' 97 3 ' 523 '2)9' :4 ' +'9 4 (' +2*' @44E9 ' 2*(' 97/+' +2;3' /453' ?4=*' 4' 79' '*')2*<72J59' +2 ' =3' /2**4 ' 7*?3 9 2*?' 2' 53 3' ?32?' 3297 3 ' *' +493' ?2(9')')3' 4:' +'9' 94 ' /2*' +2;3' 63 '9+ ' 2 ')329 ' '*' +3' /3* 2)' 62 9' 4:' 2)(' =+3 3' 549 ' 4:' +3' 4=*9' +2?' 97::3 3?' @7 09)'<+)(' 3' +3 ' 2 ' +3' '53' 4:' +3' ' /4*R739 ' 4 ' ?7 '*<' +3' =2 ' =' +' 2**'@2)' ' +3*9' 2 3* '4*' +2?' @33*' 7 *3?' 4=2'0?' +'9' 947 /3' 4:' 9 '/ ' +'9 4 '/2)' '*:4 52 '4*' :4 ' 2' /3* 7 (' 2*?' 2' +2):' @3:4 3 ' 3;3 ' 9'*/3' +3' +3*'2*' +'9 4 (' +2?' 32/+ ' ' 9' /)493 ' 7 ' +3' 4C 52*9' =3 3' @)'*?' 4' +3' ' 4=*' ?4/753* 9C 2*?' +493' 4:' 2)(' /2*' 9/2 /3)(' @3' 3/E4*3?' 254*<' 2 409' 52 3 '2)9

'A (' (32 9' 2: 3 ' +3' = 4 3 ' /253' +3' 2 9'/' =2 $ 2*?' +2 ' =29' :4))4=3?' @(' +3' '539' 4:' ())2 ' +493' 3 '@)3' 2;2<39 ' =+'/+' 96 32?' : 45' 6)2/3' 4' 6)2/3' + 47<+' ' 3;3 (' 62 ' 4:' 2)(' 2*?' @(' =+'/+' +3' /' 'H3*9' 4:' +3'

A 0' ' ,"' ' 41"8' '0' -'"8:' 25' 60.' ' ,1' 8: @ :2"!' H*' ,"70.1"8-' -" :' '0' ,"@1' 1; -'1:' "4087' ' ,1' 2("8 "8-

K 1' ."' ' ' ' 0-'. ' 4 82-' -'2:18" ! ''1. -' 92"4' "' 8 ' 11' "!-0' 5.0' .(, "' ' 1.18' 8"' -' 5052!2-' .1-' C."1("-' -'2:1'? 2(9 ' ,1' (04 (' 501" ' 88 2-' 8' H. -("8/@ ' ' 5' km

/+'3: 4= '9. 3 3 9=36 T2=2(,''7!9 !2)94)'2(3! 6 4;3/! ?39 7/ ';3 4 54*753* 9 4: 3;3 (?*? 3963/'2))(4 = ' '*<9 * 52*(?'9 '/ 9 +3 6467)2 '4* =29 /+2*<3? 7/+$$=29 +3 :'*2) ;3*<32*/3 FE3+ 4* 25*'75$ 97/+ +3 3*? 4: +3 63 93(3 2*/3 =' +! =+'/+ *7B'2 39'9 3? ())209 (2**'/2) 2*? 9+6 9'<+ 3? 394)7 '4* 4:?4'*< 2=2(3;3 (/4*/399'4* +2 ' '* +3 /67 93 4: 2<39 +2? @33* ('3)?3? 4 4 /759 2*/39 =+')3 +3 9 7<<)3? 4 52'*C 2'* +g '<+ 9 =+'/+ 9+3 +2? 3/3';3? 29 2 3=2 ? :4 9 2*?'*< 2)44: :' 45 +3 0/4554* /2793 4: 2)(+3 2*/'3* ' 79/2* *2 '4* 63 '9+ ' 2)4*< =' + +3' ' 9/'3*/3 2*? + 3 2 7 3 +3 *4@)39 =+4 +2? 2E3* +3)32? '* +3 *2 '4*2) /4* 39 :3)) @(+3 9=4 ? ')' 2 (/4C)4*'39 =3 3 39 2@)'9+ ' '* +3)2 <3 4=*9$ 2*? 2 '* @3/253 +3 4*)(6 3;2)3* ')2*<72<3 +3 /+'3: 62 4: +3 *2 '4* =29 ?36 ';3? 4: 2))2)2*?3? 6 463 (2*? 3?7/3? 4 6'*3 '* 64;3 (7*?3 :4 3'7 5293 9 =+493 466 399'4* ?32?3*3? 3;3 (*2 '4*2) 3/4))3/ '4* '*)'3 2@ 2?3? <3*3 2 '4* +2 :4))4=3? 2*?)3: +35 *4 4 +3 ='9+ +2* +2 4: @3/45'*< 452*9 2) 4<3 +3 .0 +3 932*)2*<72<3 '*?33? +2? *4 =+4))(?'926632 3? 2 4563'" 2*? 3 /7)2*75 =+3* +3(=3 3 ?39 4(3?6 2*? 3))'79 9335 9 4 9632E 4: +3 79/2* 29 2 4*<73 9 ')) ';'*< '* +'9 ?2(9.$ @7 = ' '*<9 2*? 54*753* 9 '* ' =3 3 29 7*'* 3))'<'@)3 29 +493 '* 7*'/ 4 @3 '2* 2*? =3 3 2))4=3? 4 63 '9+ 3R72))(7*+33?3?6 +3 +34C)4<'/2) @44E9 5'<+ '@3 32? '* 2 '* 2*9)2 '4*9

+3)499 4: "2 400 ='0 '*<9 =+4 =29 4: 3*)3? 4 9632E 2@47 +3 2*/'3* ' '539 4: 2)(2*? :'!45 =+45 =3 +2;3 52*(3A 2/ 9 4* +393 97@,3/ 9 '9 *4 4: 57/+

!) 18',1', 7,1.) (!"--1-0 6',1 1; ("8-,":)118 1;' .5"'1:/ ',1 61+-2.@ @1.-)1 87 1 ',1."!!0+1:'0 "'"(,' ',14-1!@1-'0',1 (08921.0.-/ 0. - 8D 87 8'0 (08'145'/ ',1 -(18(1 "8:'!1".8 87 06 ', -' .14".D")!1 5105!1 +1.1 !0-" 8 !1--' ,"8 " (18'2.*3 "8:-0 +1.1 '-".'-/ "!',027,' ',1*,":)118 (2!' @"'1:)*',1 !0+1.0.:1.!-/ +, (,' -2661.1:'!1--/ "8:'80)*',1 , 7,1.' ("-'1-' 041 : :' 80)2.8',1"8(18 +. ' 87-3)2'.1"'1:',14'+ ',' 817!1('

A L

'564 2*/3''*' +'9' 3963/ ' < 32 '29!' +3' ;2)73' 4:' +'9' '*B,' :4 52 '4*' '9B:4 ' 2' +'9 4 ('4:' 452*' 52**3 9')3' 7*C ?3 9 44?' *4 +'*<' 4:' 79/2*' 2*?' /2*' +2 ?'(' +2;3' E*4=*' 57/+' 4:' 9/2*$ *4 ' ?439' +3' 9335'b6 +2;3' 52?3' 253*?9' :4 ' +393' ?3:'/'3*/'39' @(' 266)('*<' 4' 4 +3 9' :4 ' 2'?' 7/+' 4:' +'9' 9 2 353* 9' 29' 2 3' 6 393 ;3?' /4*/3 *'*<' +3' 32)(' +'9 4 (' 4:' 2)(' 2 3' :4 ' +3' 549' 62 ' 7 3)(' =4 +C)399' 3A/36 ' +3')'9 ' 4:' :+3' 6 '5' ';3' /' '39' 4:' +3' 6346)3' =+45' +3' /2))9' +3' @4 '<'*39' ' ' '539' +3' '9' 3;'?3*)(' :4))4='*<')2 3' 33E' = ' 3 9' 4:' *4' ;2)73' 2*?' 4*' 4*3' 4/C /29'4*' 2' 52*':39' '5649 4 J' ' '9' 2' 6' (' +2 ' #'4*(9'79' 2*?' 4 +3 9' +2;3' 2))4=3?' +3593);39' 4' @3')3?' 29 2('@(' +'9' 27 +4 ' (

7)'79' (<'*79' +3' /4* 3564 2 (' 2*?' :' '3*?' 4:' ;'?' = 4 3' 4*' +3' 4 '<'*' 4:' +3' 2)'2*' 4=*9' =' +47' 2*(' / ' '/2)' ?'9/ '5'*2 '4*' 2*?' @7')?'*<' 4*' ;3 (')2 3' 33E' 27 +4 9' =+4' =3 3' 7*?393 ;'*<' 4:' 2*(' 3<2 ?' &3' +3' +29' 4: 3*' @33*' R74 3?' @(' +3' < 2552 '2*9' 2*?' 3;3 ,*' @(')'*($ 57/+' 4:' =+493' ?39/ '6 '4*' 4:' 2)(' =29' ? 2J;*' : 45' +'9' 7 @'?' 947 /3' % 45')'3')'9 ' 4:' +3' =4 E9' +2 ')'*(' 52?3' 793' 4:' ' ' 26632 9' +2 ' +3' +2?' *4 ' +47<+' ' ' =4 +' =+')3' 4' /4*97)' +3' =3* (' @44E9' 4:' (+3*'2*' '9 4 '39' = ' 3*' @(' +3' 3563 4 ')27?'79' *';3 92)' /4* 356' 9335 9' 4' +2;3' / 79+' +2 ' '))B:2 3?' =4 E' : 45' ' 9' ;3 (' :' 9 ' 26632 2*/3' 94' +2 ' =3' +2;3' *4 ' 2' 9'*<)3' R74 2 '4*' :'B45' ' ' &3 ' +3' (4*9' 2@)39' 9+3=' +2 ')27?'79' =29' =3))' 2/R72'* 3?' =' +' +3' 79/2*' 2**2)9$' 2*?' 29' =3' E*4=' +2 ' +3' 3A25'*3?' +3' 452*' 2 /+';39 l ' =3' 52(' 6 39753' +2 ' +3' =47)?' 3*?32;47 ' 4' '56 4;3' +'9' +'9 4 (' @(' +2;'*<' 9'5')2 ' 3932 /+39' 52?3' 254*<' +3' 79/2*' 54*753* 9' +3 3' '9' *4')499' 54 3' 4' @3' 3< 3 3?' :4 ' +3' 32)(' +'9 4 (' 4:' 453$' 2*?

' 2(2-' "! 2-3 60.' ', -' -'5!" 8!*' ',1'. 7,'".1": 87' 8-'1":' 06' ' -' 0:081"8' 0."(!1' -'-2(,'"'5"!5")!1'6. '2:/' ', "'' 08*G - 2-/ +,0' -'2-2"!!*' -0' ("2' 02-/ ("880") 1'92 '1',081-",1.1' ' F

K 21'08 2-/ !"2:' ' 1'5.0:2(1-',1'!1''1.'06',1' 18"'1''0' 1!12(2-' 11')1!0+/80'1' F

/4*9'?3 '*< +3 2?;2* 2<39 4: +3 '563 '2) ?')3 2* 3 =3 52(@3 97 3 +2 *3' +3 +3 79/2* +'9 4 (4: %)2//79 *4 +3 =4 E 4: 23/'*2I +47<+ '* 3;3 (4)'3 3963/ +3(52(+2;3 @33* :2 @3 3 /253 *32 ' ' '* +'9 4 '/2) '564 2*/3

2 40 E*4='*< *4 +'*< 4: +3 3*4 '2* '9 2 6 44: +2 +3 +2 *3;3 32? 3;3* '52379 57/+)399 * '4/+79. 4 /2* =3 9766493 +'5 4 +2;3 52?3 2*(793 4: '9 4)30 =+'/+ *4 4*)(35@ 2/3? 2 3* 75 2*? 4 +3 33E /' '39 '* 2)(@7 579 2)94 +2;3 32 3? 4: 9453 4: +3 2)'2* *2 '4*9$ *2(4*3 5'<+ 97963/ 3;3* 4: 453 '93 !I +2 +'9 2//47* 4: +3 +'9 4 (2*? /4*9 ' 7 '4* 4: 2@4;3 2 +7*C ? 3? 2*? :': (9 2 39 649939 +3'9253 3A/3))3*/39 =+'/+ +2;3 52?3 '9 4)30 = ' '*<9 4* *2 7 2) +'9 4 ('5C 54 2) '9 /)32 : 45 +3 : 2<53* 9 +2 352'* 3963C /'2))(+493 4* +3 +3*'2* /4*9 ' 7 '4* 52(@3 '*:3 3? 44 : 45 +3 / ' '/2) 352 E9 4* ;2 '479 <4;3 *C 53* 9 =+'/+ 4//7 '* +3) 4 +'9 529 3 4: +3)32 *3?.J +3 / '5'*2))2=9 4: 752 7*?3 +3 9/2*9 2*? 2 5 (+'/2))3<3*? 2@47 +3 :47*?2 '4* 4: 2 /' (=3 3 *4)399 2 2/ ';3 +2* 963/7)2 '4*9 2@47 :' 9 /27939 2*? :'*2) 2'59 4 '*;39 '<2 '4*9 /4*/3 *'*< 2*'52))':3 4 643 (G 2*? +'9 ='?3 2*<3 4: '*R7' (@3/253 +3 63/7)'2 /+2 2/ 3 '9 '/ 4: +'9 9/+44)

=29 *4 ')))2 3 +2 +3 *253 4: 2)(=29 <';3* 4 +3 =+4)3 3<'4* /456 '93? =' +'* ' 9 *2 7 2)

J 0.02.D80+!1:71 06)0',',1-1 +0.D- +1 ".1 8:1)'1:'0','1 1.081-1 -(,0! '' 08','1/66 81 :/; / F

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H!2'".(,/ "4 !!'(M2"1-'' 04 'N'5' N ') 08*- 2-/ ''B "!! 1@18'- -"8 285".:08")!1 5 1(1 06 817! 718(1 8 H! 8*/ +,0 027,'0',"@1)118 6"4 !".' + ','1',1 +,0!1 (.(!1 06 . -'0'!1J- +. ' 87-/ '0',"@1 04 ''1:, 4 8',1 ! -' 06',1 C.11D- ',"' -50D1 06 041 5. 0.'0 ,105,."-'2-/ !! F

0 4"1-'.0 :'(0!0.: 1-"880 "8'1 11 H0! ''

"' ')

@47*?2 '39' +3')69' 2*?' +3' 932' +2 ' *253' '*' +3' 32)'39' '539' =29' 2' *2 '4*2)' 4*3' '*' +3' 947 +$' 2*?' ' ' =29' *4 ' 3A 3*?3?' 4' +3' 54 3' *4 +3)(' 3<'4*9' 7* ')' +3' 452*' 9=2(' +2?' 7*' 3?' +3' 63*'*97)2' '* 4' 4*3' 9 2 3' 2*?' @(' /4)4*'H2 '4*' 2*?' +3' ?'::79'4*' 4:' +3' 2 '*')2*<72<3' +2?' 547)?3?' ' 9' '*+2@' 2* 9' '* 4' 2' 9'*<)3' *2C '4*' ' +' +3' 3A/36 '4*' 4:' 2' :3=' '9)2*?9' *4' /47* (' +2 ' =29' ?';'?3?' 254*<9 ' 2' ;2 '3 (' 4:' *2 '4*9' +4=3;3 ' /)32)(' ' 9' *2 7 2)' @47*?2 '39' 5'<+ '@3' 52 E' 47 ' @4 3' 2*(' <3*3 2)' *253' '*' +3' 32)(' 2<39' 4:' 2* 'R7' (' 7* ')' 9453' 4*3' 6346)3' @3/253' 529 3 ' 4:' ' ' 2?' 9'2' '*4 ' :4 ' '*9 2*/3' /4* '*73?' 2' 7*' 3?' 9 2 3 ' 2: 3 ' 43979' 97@C ?73?' 2))' ! +3' /47* (' 4' +3' =39 ' 4:' +3' 2)(9 ' +3' *253' 4:' (?'2' =47)?' 6 4@2@)(' +2;3' /453' '* 4' 793' :4 ' +3' =+4)36' 29' +2 ' 4:' 9'2' ?'?' 97@93R73*)(' :4 ' +3' /47* '39' =+'/+' 52?3' 7,' +3' E'*<?45' 4:' 3 <2579' 2*?' +2 ' 4:' 9'2*9' :4 ' +3' ' '*+2@' 2* 9

2539' 4:' /47* '39' =3 3' 2)=2(9' :4 537' @(' +3' 2*C /'3* 9 ' 29' @(' +3' 3 52*' *2 '4*9' 2: 3 =2 ?' : 45' +3' *253' 4:' +3' '*+2@' 2* 9! I $' 2*?' 2)'2' 532*9' *4 +'*< 3)93' +2*' +3')2*?' 4:' +3' 2)' ' 4 ' '9' ' ' 4' @3' 2//47* 3?' :4 ' 3A/36 ' : 45' +2 ' 96' ' .' 4:' 2@97 ?' (' =+'/+' 2)=2(9' /253' 4;3 ' 3;3*' +3' 549 ' 92<2/'479' 4:' +3' 33E9' 2*?' 452*9' +3' 5453* ' +3(' 53??)3?' =' +' 3 (54)4<(' +4=' 2*(' 4*3' /47)?' 9 75@)3' 4*' +3' *4 '4*' 4:' '* 3 6 3 '*< +2 ' *253' 29' +47<+' ' ' +2?' @3)4*<3?' 4 '<'*2 (' 4' +3' /47* (' @3/2793' '*' (+3*'2* ' 4 ' '*' 2*/'3* ' 33E!. ' 0 ' 4 ' ' 532* ' 2*' 4A' +'9' =29' /4**3/ 3?' @(' +3

7*5" -' 51.,"5-' ',1' 08!*'1;(15' 08' ?)2" '-' .@1./+,(,' +"-' -0' ("!!1:')*' ',1' !08 "8-/ 62.8 -,' "8' 0((''- 08' -2(,' "-' : :' 80" 1; -" "8*+,1.1' 1!-1

8' ',1' 60.41./ "((0.: 87' '0' 50!!0:0.2-/)!' /' ' 3' 8' ',1'!"''1./ "((0.: 87' '0' 4"I2-/ 920'1:')*' C1!! 2-/ ; ' ' 1!!"8 (2-' 06' 1-)0-/ "-' ('1:')*' 08*- 2-/ ' / 41.1!*' -"*-/ 8' ',1'!"872"71' 06' ',1' (028'.*' *..,18 "8' ,0+1@1.' :01-' 80" ,1.1' 41"8' '.2-("8/)2" H1! -7 (/ "-' 8' ',1' *..,18 "8' 7!0--1-' 8' 1-*(, 2-

5 (+4)4<3 9' =' +' +3' 9 4 (' 4:' 3 /7)39' ? ';'*<' +3' 4A3*' 4:' 3 (4*' + 47<+' +3' /47* (. .' '5 c79' '*' =+493' ?2(9' 97/+' 3A6)2*2 '4*9' =3 3' *4')4*<3 ' 2//47* 3?' 92 '9:2/C 4 (' :47*?' 47 ' +2 ' +3' *253' 2))7?3?' 4' +3' 2@7*?2*/3' 4:' /2)3' '*' 2)(0I

+3' *253' 4:' +3' 6346)3' =29' ?3 ';3?' @(' +3' 33E9' : 45' 2)79' 2' E'*<' 4 ')2=<';3 ' 4:' +3!' 3*4 '2*9 ' *' +3' 9/2*' *253' 4:' +3' /47* (' "' 3))'75'.I' +3 3' '9' 2*' 3;'?3* ' 3:3 3*/3' 4' "' 3))'79' +3' 94*' 4:' %27*79' 2*?' 4:' "' 3))'2' 2' <4??399' =4 9+'6' '*' ! 52*(' 62 9' 4:' 2)(' +'9' "' 3))'79' '9' 6 4@2@)(' +3' 9253' 63 94*2<3' =' +' 2C)79' :' 2*(+'*<' '9' 4' @3' ?';'*3?' =' +' 3<2 ?' 4' +3' 4)?39' <3*32)4<'39' 4:' +493' 2/39' =+'/+' =3 3' 67 3)(' 2)'2*' ' ' '9' +2 ' +3(' =3 3' 2/3?' 76' 4' %27*79'$ +2 ' 4:' +3' 3*4 '2*9' + 47<+' "' 3))'79' 2*?' +2 '4:' +3' 2 '*9' + 47<+' 2 '*79

//4 ?'*<' 4' +3' 33E' 2//4'5 9' +3' 3*4 '2*9' =3 3' 2)'2*9' 2E'*<' +3')2 3 ' *253' '*' 2' ='?3 ' 93*93 ' 2)' +3' '@39' @3)4*<'*<' 4' +3' 9253' 2/3 ' +3' (+3*'2*9 ' +3' '/7)'2*9' +3' 2 '*9' =3 3' 2997 3?)(' /456 '93?' 7*?3 ' ' ' 3*/3' +3' 9'5'253' 4:' "' 7)79' @4 *3' @(' 2' @ 2*/+' 4:' +3' 25')'2*' +4793' 29' 2*4 +3 ' @4 3' +_ ' 4:' 7 '*79' 4 ' (+3*79' ' =29' /79 452 (' 29' '9' 6 4;3?' @(' +3' 4)?39' 452*' %29 ' ' :4 ' +3' < 32 ' +4793' 4' 2E3' ?'9 '*<7'9+'*<' 97 *2539' : 45' 2' 6346)3' =' +' =+45

AA 1!!"8 (2-' "8:' 50!!0:0.2-' 8' ',1' 5"--"71-'I2-'".161..1:' '0

AA C1!! 2-/ L ' ' H -0/ +,0' -' 920'1:')*' "..Q' :1' .1' . ' ' /)0..0+1:' ',1' 1;5!"8"' 08' 6.04' ',1' C.11D-

11' 80'1' F

JP 21'08 2-/ '1!! ' 'P , -' -255! 1:' "8' 0550.'28 '*' 60.' '", 1.0 ' 7!*5, ("!' .15.1-18'"' 08 ' ,1')2!!' + ',' "' ,24"8' 6"(1/ 6028:' 08' ',1' "45"8 "8' (0 8-/ "8:' 08' 0',1.-' 06'-02',1.8' '"!*/ -' %"!2-/ 0.' '" ' !2-' 0' :02)" '00' " -' ',1' -"41'8"41/ '2!2-/ 28:1.' : @1.-' 60.4-/ ',"" '1;5.1-'/ ',027,' + ',' 4"8*'@". "' 08-/)*' ',1' 4*-'1. 02-' -("8' (,"."('1.-' 08' ',1' (0 8-' 2-2"!!*' "-(.)1:' '0' HR-'24' S (D,1!' 0('.' 24 ' ' 5' I F #? 60.' 80', 87' ("8')1' 40.1' 6!1;)!1' ', "8' ',1' 8"41-' 06' 8"' 08-' 8' ',1' '"! "8' !"872"71-

+3(' =3 3 -/4**3/ 3?' @(' @)44?' 4 ' @(' +3 '39 4:' 67@)'/' +496' 2 (.' 9 :2 ' 29 +'9 < 32 ' 6346)3 96 32?' =+4' 2 ' 2))' 3;3* 9 4*/3 4//76'3?' +3 =+4)3 4:' +3 63*'*97)2 4 +3 947 +' 4:' +3 !n!'@!3 ' 2*?' 263 2 <2*79 ' +3 /47* (' @4 3 +3 *253 4:' 2)'2 ' 4 ' "' 2)'2. I$ 2*?')''9 *253 5'<+ ' 329')(' @3 6 393 ;3?' 2: 3 ' +3 2*/'3* ' 2/39 +2?' @33*' ?39 4(3?' ? ';3*' 47 ' 4 ' '*/4'64 2 3?' @(' +3 9/2*9 2*?' 2@3))'2*9 ' +3 452*9 2*?' 25*' 39 =47)?' *3;3 ' +2;3 @4 4=3?' +3 *253 4:' 2 :4 3'*' ?'9 '/ ' 4 <';3 ' ' 4 +3)2*?' =+'/+' +3(' '*+2@' 3?' 2?' ' ' *4 '@33*' 2)0 32?(' '*' 793 =' +'*' +3 /47* (' ' 93):' +3 /4* 39 ' +2 ' ?3/'?3?' =+'/+' 4:' +3 =4 *2 '4*9 =29 4 7)3 '*' +3 63*'*97)2 ' =47)?' 2)94 +2;3 ??:3 5'*3?' +2 ' ' 9+47)?' @3 /2))3?' 2 '75' 4 ' 25*'5*

% 45' +3 *253 ' 2)'2 ' +453 @(' +3 947 +3 *' +2):' 4:' +3 63*'*97)2 ' +3 6346)3 =+4 93)3?' '*' ' ' =3 3 /2))3?' 2)'/2*9$ 2*?' +'9 2663))2 '4*' =29 3A 3*?3?' 4 +3 4 +3 ' @ 2*/+39 4:' +3 9253 9 4/E =+4 44E *4 62 ' '*' +3 5'< 2 '4*' 3 3@(' +3(' =3 3 ?'9 '*<7'9+ ' @4 +' : 45' +3 :4 3'*' '@39 '*' +3 *4 +' 4:' 2)(' 2*?' : 45' +3 452*9 ' :' 2)'2*9 *4 53* '4*' '9 52?3 2: 3 ')'3 ?4=*:2)' 4:' +3 2*/'3* ' *2 '4*' 5' ')' ;3 (')2 3 '539$ 2*?' +3*' 2)' +3 '*+2@' 2* 9 4:' +3 63*'*97)2 2 3 /2))3?' 94 '*?'9/ '5'0 *2 3)(' +3 2)'/2*9 =3 3 :4 ' +3 549 ' 62 ' 2@3))'2*9$ 2*?' +2 ' 7*'4*' 254*<9 ' +35' =+'/+' =29 < 47*?3?' 4*' 2 /4557*' (' 4:')'*32<3 ' 4:')2*<72<3 ' 2*?' 4:')2=9 ' =29 /4*0 97552 3?' =' +' 3<2 ?' 4 +35' 2*?' 2)' +3 4 +3 ' '*+20 @' 2* 9 4:' +3 947 +3 *' 63*'*97)2 ' 3A/36 ' +3 33E9 ' @(' +3' ' /';')' 3)2 '4*' 4 453 ' +2 ' +3 2)'/2*9)44E ' 764*' +3593);39 29 4*3 6346)3 ' '9 3;'?3* ' : 45' +3 2 B 9'/' =2 ' ;3*'@3:4 3 '*' +3 93/4*?' 7*'/' =2 ' +3(' +2?' 2/ 3?' 9362 2 3)(' : 45' +3 79/2*9 2*?' 5@ '2*9 ' =+4 44E *4 62 ' '*' ' ' 4=' +4=3;3 ' 2)' +3 /' 'H3*9 4:' +'9

>' *' ' 11')1!0+/ 80'1' BN

'"! "' -' 418' 081:')*' 1.@ 2-' "-' 081' "4087' ',1' @". 02-' 8"41-' 06' ',1' (028'.*'? 08' I 8 '@ '

2)'2' =3 3' 7*?3 ' 2 59% +3(' 32))3?' +3' /26' 2)' 4:' +3' ' /4*:3?3 2/(' 2)'/2$ 2*?' ' 9' /4'*9' 2 3' '*9/ '@3?' =' +' +3' *253' 2)'2 ' 4 ' "' 3))'75!\

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PA' ' J<=>? @A'1 ' $ ' ' F' , -' 7"',*!!2-' -114-' '0' ,"@1')1!0871:' '0' ',1' !1;"8:. "8' "71' -' '0' ',1'! 81' 06' 88 2-' = -' !0(2-/ 1-51. "4' 92"4' 40.'"!1-' 51.,)1)"8' S.1":' :' ,= "' -' 92 '1' "-' ! D1!*' '0')1' '"D18' 6.04' -041' C.11D' 501' 06', -' 0+8' ' 41/ "-' 6.04' 081' 06' "')1''1.' "71' 8' ',1' 8',0!07*' +1' 6 8:' 1-51. "' 2-1:' 60.' '"! "3)2" " -')*' 7"', "-

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2)=2(9 3)2 3? 4 2)(' 2*? +2 ?)(' 3;3 ' 4 @3 '2 ' +'9 <2;3 '93 4 +3 *4 '4*' 2*? 4 +3 97@93R73* ' 792<3 ' =+'/+' '?3* ':'3? 3963 '2 =' + 2)(

794*'2 =29 2 *253 3A 3*?3? @(' +3 33E9 ')'E3 2)'2 ' : 45 2 9'*<)3 ?'9 '/ ' 4 2 ='?3 ! 2*<3 4: /47* (' :' 9 ' ' =29 9(*4*(5479 5 + 6'/2G 2*? 9'*/3 +3 *253 4: 6'/2*9 =29 <';3* @(' +3 33E9 ' @3:4 3 +3 3*? 4: +3 :47 + /3* 7 (' 4: +3]' (' 4 2)) +3 '@39 ?=3))'*< =' +'* +3)'5 ' 9 299'<*3? 4 2)(' @(' 'B 52379 ' +3(' @3<2*' '* +3' ' 643 '/2))2*<72<3 4 266)(' +3 *253 794*'2 *4)399 ='?3)(J ' +'9 579 ' +2;3 @33*' ?4*3 ' @(' = ' 3 9 *4=)49 ')4*< @3:4 3 +3 '53 4: (/46+ 4*' @(' =+45 ' 2@47 ' +3 (32 ' m ' +3 =+4)3 63*C '*97)2 4 +3 947 + 4: (*+3*'2 2*? 5@ '/2 '9 /2))3? 794*'2Z ' ' + 4 +3 ' = ' 3 9 . +'9 '9 2* 2663))2 '4* :4 ' +3 /47* (' @3 =33* +3 63**'*39 2*? +3)4=3 ' 932 I JG 2*? '* +'9)29 ' ='?3 ' 93*93 +3 *253 '9 3;'?3*)(' 793? @(' 64))4*'79 8'* +3 '53 4: 4)35 (' 73 <3 39 ' @3C =33* ' 2*? D :4 ' +3 =+4)3 /429 ' 4: 2)(' 4* +3)4=3 ' 932 ' 3;3* :4 ' +2 ' 4: 7 '2. I

8 ' , - -18-1 ' , 1 -!"8: 06 .(1/ U -"/ - "((028'1: 8 2G -08 " 3 50!!0:0.2-/ ' F , 1 0."(!1 -" : '0 , "@1)118 :1! @1.1: '0 ', 1 , "!(: "8- ("!!- ', 1 81 7,)02. , 00: 06 , 17 24 %$ $ + *> # 0:0.2-/ 8 ', 1 (!07 ' :1 -18'18' -/ 5 ' 1: ' "! ' , - - " 5.006 , 0+' .1(18 " ', 1 60.71.* 4 2- , "@1)118

Y ' , 1 (! "8 -'." '/ @ ' 3 .5 ' "8: 52! "/ @@ ' F ' N 3 5 ("/ 5.051.!* -0 ("!!1:/ "8: ', 1 5188 81-/ @ ' B 3 180'. "/ @@ ' F ' B , " *(05, .08 (08- :1.1: *.., 18 " "5: 4). (" "- : -' 8(" 6.04 2-08 "/ - , 1+8)*@@ ' F N ' " - '.21/ , 1 (0!!- 7*!!" 2-08 "83)2" ', - -)160.1 ', 1 *.., 18 "8- '00D 50--1-- 08 06 '? ' - " 7181."! 8"41 60. '"!* 2-08 " - 2-1:)*' 08*- 2- H1. 171'1-/ "8: 6.19218'!* 8 ', 1 8', 0!07*/)2")*' 80 081 0!:1. ', "8 8' 5"'1. 06 , 1--"!08 (" ' 8 ', " +0.', !1-- 5014/ ', 1 .5, (' .708"2' (-/ '! 1 ; ' 42- 41"8 (!*/ ".G : 8 "/ "8: 0.- ("? @ ' ' 8 ', 1 6 6', "8: - @', (18'2. 1-/ '0 081 06 +, (, ', " 5014)1!087-/ +. '1.- +,0 " 41: " 1!17"8(1 -041G ' 41- ("!!1: ', 1 '"! "8- 06 ', 1 . "71 2-08 "8-/ 1@18 8 5.0-13 "8: 8 H. -(2- S ;(1.5'/ :1 17"' '5 ' F # 2-08 "8 -114- '0)1 192 G @"!18 " '0 ' "- : -' 872 -, " 6.04 "' 8

1-' ' 5 ' '@ ' 2-08 "4 ' Y ' .708/ @ '

+3' *253' 4:' 2 7 *'2' 92'?' @(' #'4*(9'79' 4' +2;3' @33*' :47*?' '*' +3' '@())'*3' 4 2/)39 Y 4:' =+'/+' +4=0 3;3 ' +3' /2*' 4*)(' +2;3' @33*' 2/R72'* 3?' =' +' +3')2 3 ' 2*?' :4 <3?' /4))3/ '4* Y 52(' 63 +269' +2;3' @33*' 793?' @(' +3' 2*/'3* ' 2 '*9' :4 ' 2' 62 ' 4:' /3* 2)' 2)(' =+3 3'*' 2 '75' =29' /4* 2'*3?$' 4' =+2 ' 3A 3* ' +4=3;3 ' =3' /2**4 ' ?3 3 5'*3' 3*/3' +3' *253' 4:' +3' 2 7 *'2*' ;3 939' =+'/+' =3 3' 97*<' '*' 2' 53J7 3' 63/7)'2 ' 4' +393' *2 '4*9' 7 ' +3' 2/39' 4:' +'9' *253' 2 3' 94' :2'* ' +2 ' 2))' =3' /2*' 92(' =' +' /4*:'?3*/3' '9' ' ' /3 2'*)(' *3;3 ' /253' '* 4' <3*3 2)' 793' :4 ' +3' =+4)3' 4:' +3' 63*'*97)2

2 2' 2*?' 3*4 '2' 794*'2' 4 ' 6'/2I0' (+3*'2')26(<'2 ' 2*?' 5@ '/2' 2 3' 2663))2 '4*9' ?3 ';3?' : 45' +3' 33E' *2539' 4:' +3' '@39' +2 ' '*+2@' 3?' +3' 3<'4*9' /2))3?' 2: 3 ' +35' 4*' +3' /429 ' 4:' +3' 63*'*97)2' 2 ' +3' '53' =+3*' 2<*2' 23/'2' =29' '*' ' 9' 549 ' :)47 '9+'*<' 9 2 3 ' 7/+' 44' =3 3' +3' /47* '39' 3*753 2 3?' @(' +3' ' /+4 4< 26+3 9' 4' +3' 947 +' 4:' +3' 4' J?' 4' +3' 329 ' 4:' +3' 2/ 2 ' +3' 52'*' 62 ' 4:' =+2 ' =3' +*4=' /4*0 /3 *'*<' 2)(' 6 '4 ' 4' +3' '53' 4:' +3' 452*9 ' +29' @33*' +2*?3?' ?4=*' 4' 79' @(' +3' 33E9$' 2*?' +3' ' ?';'9'4*9' 2*?' ;'3=9' ='))' :4 5' +3' :' 39 ' <7'?3' :4 ' 2*' '*R7' (' =+'/+' 7*?3 2E39' 4' /4))3/ ' 2*?' + 4=')'<+ ' 4*' 97/+' '*:4 520 '4*' 29' 352'*9' =' +' 3<2 ?' 4' +3' ;2 '479' '@39' 4:' ' 9' '*+2@' 2* 9 ' ' +3' '53' +4=3;3 ' =+3*' +3' 33E' 93)30 53* 9' =3 3' :4 53?' *3' +3 ' +3' 79/2*9' *4 ' +3' 2B' @3))'2*9' +2?' 52?3' +3' ' 26632 2*/3' =' +'*' +3' 96+3 3' 4:' +3' ' E*4=)3?<3 ' 3*/3' +2 ' 2*/'3* ' ?';'9'4*' 4:' +3' /47* (' 52E39' *4' 53* '4*' 4:' +35 ' 2*?' +29' *4' 6)2/3' :4 ' +3' 64=3 :7)' 9 2 39' =+'/+' +3')2 3 ' 39 2@)'9+ ' '*' +3')2*?' 4:' +3' 2*/'3* ' 2)'2*9' 2*?' 6'/2*9 ' 7*?3 ' +3' *253' 4:' 25*' 39 ' 7/2*'2*9' 2*?' 2562*'2*9 ' *' +3' 2 /+340)4<'/2)' 2//47* ' 4:' +3' 2)'2*' *2 '4*9 ' 4*' =+'/+' ' 25 ' *4=' 2@47 ' 4' 3* 3 ' +3(' 29' =3))' 29' +3' 79/2*9' =')' 2E3' +3' ' 266 46 '2 3' 9 2 '4*

' '' +"-' "!-0' ("!!1:' 5 ("7 ,2(*: :1-/ @ '

(3<2 ?4 +34 4 '<'*4:+3 3*4 '2*9' '=29
9 2 3?@(' +3 3/(?39..' +2' 3*4 79=29 4*34 4:+3
=3* (' 94*9 4: (/24*' 2*?+2' +3 3*4 '2*9=3 3
*253?2: 3' +'5' 29 +3 37/3 '2*9 4*+3 4*'2*'<7):
3 3 2: 3' +'9 @ 4 +3' 37/3 '79' +3(' 35'< 2 3?: 45
/2?'2.I' 93;3* 33*'<3*3 2 '4*9 @3:4 3 +3 4,2*'=2'
=' +' 2 57) ' 7?3 4:+ /2?'2*9 2*?4 +3' 33E9' =+4
=3 3 6 39':4' 445' 2' +453 2*?+'9' 92(9 2792*'29.I'
'9 +3 32 +39' /4)4*(' =+3 +3' 33E9 4' @2 @2 '2*9'
4:+=+'/+2*(' 3/4))3/ '4*'+29 @33*'6 393 ;3?

+3' <3*32)4<3 9 +2;3 <';3*' ?'::3 3*' 2//47* 9 4:
+3 *75@3' 4:+3 (/24*'?9' *' 2792*'29 =3 :'*?
=3* (B9'A *2539 2 '? 93;3 2)+2;3 6 4@2@)(' ? 46' ='
4:+'9 3A' 64))4?4 79.00 3/E4*9 +35' 2' :': ($ 4*3
4:+=+'/+'9 =2* '*<'*+'9)'9' "3 (' :3=' *2539 '*' +3
=4)'9 9 2 3 +3 9253 '*' 2792*'29 +3 3 '9 *4 37
/3 '79$ '*' 64))4?4 79 *3' +3' +3 *4' 3*4 79' 7'
+3 9 2*<39' +'*<4:+2)'9' +2' +47<+' +3' '*2539
52 E +35' 2)'47' 29 :47*?3 9 4:+ '@39 4' 4:+/' '39' +3
)2 3' 5(+4)4<3' 52E39 +35' 2)'63 '9+' '*' #37/2)'4*09
:)44?' '9 /)32' +2' 3' +3' @(' +'5' 4' @(' +3 27 +4'
+3 :4))4=3?' 2)3<3*?' 2@47' /3 2'*' '56'479 94*9 4:+ (
/24*' =+4 63 +269 =3 3 *253)399' 579' +2;3 @33*' 2@
97 ?)(' 5'A' 76' =' +' +3 2?' '4*' =+'/+' 3*753 2 3?+3
4=*9 4:+ /2?'2' 2*?97/+' 29 =3 3 4:+ E'*? 3?4 '<'*'
7*?3' +3 *2539 4:+3' '6 3 3*?3?:47*?3 9

4@4?(' =')'44E 764*' 97/+')3<3*?9 '*' 2 +'9 4 '/2)'
)'<+ 6 @7' /4*9'?3 3?2 9 *2 '4*2)' 63?'< 339')'E3 +3
492'/2)' 97/+' <3*32)4<'39 2 3 ?393 ;'*<4:+2 3* '4*$

Y' M20'1:')*' 08*-2-/ ' 4562 3''')'
Y' 08*-2-/ '
)!0',' ' AA .(":'('

'*2957/+' 29' +3(' 6 393*' ;'3=9' /4*/3 *'*<' +3' 2:' *' (' 4:' *2 '4*<' =+'/+' /3 2'*)(' =3 3' *4' '*;3* '4*9' 4:' +3' <3*32)4<3 9' +3593);39' 32)(' = ' 3 9' 2: 3' +3' 9/2)3' 4:' 47')' 3 2 7 3' @7' =3 3' 2E3*' @(' +35' : 45' 64359' 4:' @3' 9253' /)299' =' +' +3' +34<4*(' 4' : 45' 2*/'3*' 32 '939' 4' 6 3;2)3*' 46'*'4*9' +2' 64 '4*9' 4:' +393' <3*32)4C <'39' 2 3' < 47*?3?' 4*' 3 4*3479' 976649' '4*9' 4' 2')329' 4*' 2//47* 9' 4*)(' 62 '2))(' 7*?3 9 44?' '9' 3A356 :'3?' '*' +3' 492'/2)$' '*' =+'/+' 2/39' 7*?3*'2@)(' @3)4*<'*<' 4' 3* ' 3)(' ?':3 3*' :25')'39' 2 3' 36 393* 3?' 29' /4**3/ 3?G' 2*?' ' 25' ;3 (' ='))'*<' 4' 2))4=' +2' +493' 4:' +3' 33E' 5(+4)4<3 9' 52(' /4* 2'*' 9 '))' < 32 3' 3 47 9' '))' =+3*' =3' :'*?' +35' 9632E'*<' 4:' +3' 3)29<'2*' *2 '4*' +3(' 2' 2))' 3;3* 9' @3)4*<' 4' 2*' 2<3' =+3*' +2' *253' 2*?' 6346)3' +2?' *4 +'*<' 4:' +3' 5(9 3 (' =+'/+' +3(' @4 3' '*' +3' 3(39' 4:' +3')2 3' 33E9$' :4' '*9 2*/3' '*' +493' 4:' 2@4' 4 34;3' 2) +47<+' +3' /2?'2*9' +2?' @33*' 5*9:4 53?' '* 4.' 3))3*9' 2' ;3 (' ?'9 '*/' 3/4))3/ '4*' 5'<+' 9 '))' @3' 3 2'*3?' 4:' +3' ' 2::'*' (' =' +' +3' +396 4B' '2*9' =+493' 3 ' 4 (' /4* 2'*3?' +3' 4 2/)3' 4:' #4?4*2' 29' =3))' 29' 4:' +2' @3 =33*' +393' 6' 4 9' 2*?' 4 +3' 2/39$ =+'/+' '9' '56+3?' '*' +3' /4554*' ?39/3*' 4:' 23*2)79' 2*?' +3' 4 +3' /2?'2*9' 29' =3))' 29' 4:' +396 4 79' 2*?' 3*4B' 79' : 45' 3)29<79' 4' '9' +'9' <3*32)4<(' +3' 4*)(' 27C +4 ' (' =3' +2;3' :4' /2) *<' +3' 3*4 '2*9' 3)29<'2*9' *3A/36 '4*2@)3' 3;'?3*/3' 4' +3' 9253' 3::3/' 29' 9 '/)(' +'9 4 '/2)' 29' +3' /293' =')' 2?5' ' 4:' '9' :7 *'9+' @(' +3' 9 2 353* ' +2' +3' 93 :9' 4:' +3' 2+2*' 33E9' =+4' 579' 7*?47@ 3?)(' +2;3' @33*' 3*4 '2*9' =3 3' /2))3?' 3)29C <'2*9II' 39'?39' =3' +2;3' 4 +3' 9 2 353* 9' 4:')399' 27C +3* '/' (' @7' 4:' ;3 (' ;2 '479' E'*?9' =+'/+' 9632E' 4:' 3)29<'2*9' '*' 52*(' ::3 3*' R72 3 9' 4:' 2)(

+3' *253' 4:' +'9' 6346)3' 4:' =+45' +3' +'9 4 '/2)' '*C R7' 3 9' '*' +3' 2<3' 4:' 7<79 79' /47)?' :'*?' *4' 2/3' 254*<' 2*(' +3*' 97@9'9 '*<' 2*?' 2@47' =+45' 94' 52*(' 46'*'4*9' +2;3' @33*' 52'* 2'*3?' =' +' 97/+' /4*:'?3*/3' 4:')2 3' '9

' E94 5 3 4 +3 +'9 4 '2* ' =+4 +2 39 +2 ' 967 '47 6+'
)4)4<(' =+'/+ 2'939 6 3 3*9'4*9 4 E*4=)3?<3 /4*/3 *'*<
2/39 94 /4 5 6)3 3)(' @7 '3? '* 4@)';'4* ' 2*? '9 3;4) '*<
4* 2//47* ' 4: +3 9/2*?2)479 *4*93*93 +2 ' +29 @33* = '
3* 2@47 ' '5 2<'*2 (3)29<'/ 5 (9 3 '39 2*?)4 3 ' *?3 '
+3 '*:)73*/3 4: +'9 ?'9<79 ' ' 3: 2'*3? '* 5 (' :' 9 ' 3?'
'4* : 45 9632E'*< <3*3 2))(' 4* +3 97@,3/ ' 4: +3 3)29
<'2*9$ 54 3 3963/'2))(' 29 ' :32 3? +2 ' @(' ?4'*< 94 '
5 '<+ ' 4*)(' @3 463*'*< 2 =2(' :4 ' 2 *3= '*:)7A 4: = '
'*<9 4* +'9 7*:4 7*2 3 97@,3/ ' ' =27 3? 4 /4*:'*3
5 (93): 4 97/+ '@39 4: +'9 *2 '4* 29 2 3 53* '4*3?
254*< +3 '*+2@' 2* 9 4: 2)(')''9 +4=3;3 ' =47)?)32;3
+3 '*;39 '<2 '4* '* 2 ;3 (' 7*92 '9:2/ 4 (' 9 2 3 ')'3 4@
,33 ' 4: +3 4*3 ' 25 *4= 2@47 ' ,' /45 53*/3 '9 53 3)('
4 52E3 47 ' =+2 ' 2@4 ' ': +3 +2? 93 ' +'9 E*4=)3?<3
?'9 '*/)(' @3:4 3 +'9 4=* 5'*?' 5 '<+ ' +2;3 <';3* 29 ' 9
397)

' +3 3)29<'2*9 =3 3 2 ?'::3 3* ' *2 '4* : 45 +3 3)
)3*9 I \' +3' ')2*<72<3 =29 63/7)'2 ' 2*? *4 ' 33E I I
+'9 2993 '4* +4=3;3 ' 579 ' *4 ' @3 9 3 /+ ' 94 :2 ' 29 4
'56)(' 2 ?'::3 3*/3)'E3 +2 ' @3 =33* +3 33E 2*? +3
))('2*4 ' + 2/'2* ' 2 '4*9 ' =+493)2*<72<39 =3 3 54 3
32)(' 2E' +2* +3 2 '* 2*? 33E ' =47)? 9 ' ' 9632E
94 29 *4 ' 4 @3 57 72))(' 7*?3 9 44?$ 2*? +'9 '9 2)) +2 '
3 4?4 79 =29 +'*E'*< 4: =+4 ' +47<+ +3 ? 2=9 97/+
2 ?'9 '*/ ')'*3 @3 =33* +3 =4 *2 '4*9 ' (3 ' ?3;'2 39 : 45
2)) 4 +3 ' 33E = ' 3 9 '* 2*E'*< +3 6' 4 9 254*< +3
3))3*9 I !' +2 ' +3 3 =29 2* 3993* '2) 2::'*' (' *4 =' +
9 2*?'*< +3 ?'::3 3*/3 ' 9 6 4@2@)3 ' : 45 ' +3 3293 =' +

, - : -' 8(' 08)1'+118 ',14 - 4':1)* 1.0:0'2-
1.0:0'2-/ ' B ' ,1 *..,18 "8 "8: (2! "8 +0.:-6028: 8
',1 7!0--". 1- ".1 H1!"-7 (?)2 @1.* 61+ 06 ',14 ,"@1 1-("51:)1 87
(0..25'1:)*! ',1 '."8-(.)1.- ' ,1 8"41 06 ". --"/ +, (,' +"-
)0.81)*'+0 "8(18 ("5 '"!- 06 ',1 8"' 08/ 8 ,1U"!*' "8:- 8 - "/
)* ',1 ('": 1 06 .70-/)* '"'0+8 81".' ',1 . - S 08*- 2-/ ' #/
"8:)* 4"8* 0',1. 5!"(1-/ 4"*)1 .17". :1:' "- '" H1!"-7 (+0.:
1 -51"D- 06 ,1-5.0' '" "- 8 1!!"-/ ' N3 "8: (!"--1- ',1
0!0-- "8- "4087 ',1 %1!!12-/ @ ' B

<49 3*/3 +3992)(=29 3 53? +3 3)29<'2* C
<49.$ 2*? 2 62 4: 3 2'*3? +3 *253 4: 3)29<'4 '9
+3 +(64 +39'9 =+'/+ 97664939 +3 3)29<'2*9 '* +3
/3* 3 4: 2)(4 +2;3 5'< 2 3? +' +3 : 45 +3 29
@ '*<9 +35 : 45 +3992)(29 +47<+ +'9 =3 3 +3'
T6 463 +4 5 3$ B2*? +3 *25 39 +3992)'2*? 2*? 3)29<'2*
2 3 793? 29 3R7';2)3* l l 4 /+2*<3 =29 52?3 '* +'9
3963/ @(+3 5'< 2 '4*' 4: +3 +3992)'2*9 6 463)(94
/2))3? : 45 +396 4 '2 '* 4 354*'2B:. %4 +3 +39B
6 4 ''59 =3 3 3)29<'2*9 +3' 6 4<3*' 4 '9 53* '4*3?
'* 64))4?4 79 29 4*3 4: +3 (/24*'?9G 2//4 ?'*<! 4
4 +3 9 3)29<79 2: 3 +3 ?3)7<3 /253 '* 4 6' 79 2*?
2664'* 3? 4*3 4: +'9 :4))4=3 9 E'*< 4: +3 4)499'2*9 2*?
'396 4 '2*9J lG +3 6' 4 '@39 (9 2@4 2 3 @('
52*(/2))3? 3)29<'2*9!.G 2*? #4?4*2 '9 2/E*4=)3?<3?
4* 2)) 9'?39 4 +2;3 @33*' 3)29<'2*' < 47*?' +3 6' 4 9
2 3 ?'9 '*<7'9+ '* +3 549 649' ';3 52**3 @(' +7/(C
?'?39 2*? 4 +3 = ' 3 9 : 45 +3 33E9 2*? 2 3 3A6 399)('
3 53? @2 @2 '2*9G *4 '9 +'9 4 @3 /47* 3 @2)2*/3? @('
+3 '*?7)<3*/3 4: 4)(@'79 =+4 /)29939 +35 254*< +3
3))3*9G +47<+ ' '9 73 =3 +2;3 +3 3 2*4 +3 '*9 2*/3
4: +3 3293 =' +' =+'/+ 2 3)29<'2*' 6346)3 =29 2*9:4 5C
3? '* 4 33E9 4 +3 6' 4 9 2)94 @3)4*<3? 2 ;2 '3 (
4: 2/39 4* +3 *4 +3 * 9E' 9 4: +3 547* 2'*9 =+'/+
2: 3 =2 ? /456493? 663 2/3?4*'2 +3 39 '2*9 +3
3)2<4*'2*9 +3)'5'4 9!J.G 94 ?'? +493 4* +3 46649' 3
@4 ?3 =+4 =3 3 97@93R73*)('*/4 64 2 3? 29 @2 @2 '2*

> 041.%' 'N
'.")0/ '5' ':' 5 ' 1 5 ' ! 1 -' -51"D 87 06 ',1
H1!"-7 "8-' "' "1.1 *_(2-' +"-' -" :' '0 ,"@1)118 8,") '1:' 8
1".!* ' 41-')* ,1--"! "8-/ H1!"-7 "8-/ "8:' *..,18 "8-' ' +"-'
80" 51.(1 @1:' ', "' ',1-1 +1.1 : 661.18" 8" 41-' 06 ',1-"41 8"' 08 3
"8:' '" -'0.* +"-'6"). ("'1:/ ,0+' ',1 H1!"-7 "8-' +1.1 1;51!!1:')*' ',1
,1--"! "8-/ "8:' ',1 !"''1.')*' ',1 *..,18 "8-' 0808/ '? (04G
5".1:' + ',' ',1 (,0! "-" 08 50!!08 2-/ l ' F B "8:' F ' 11 80'1-'
'"8:'
6 1.0:0'2-/ @8 ' BN' H!2'".(,/ H*..,'
6 ' 5 ') ' ' '.")0/ ;' 5' ':

'@39 =' +' d 4)'2 =+3*' ' =29 3*)2 <3?' +3 56+'B)4/+'2*9' < c2*9' 2*? 4 +3 9' '3)2*?' *32' +3 547 +' 4:' +3 /+3)479' =)''/+' :)4=9 + 47<+' +3 3 'C 4 '39 4' 2)4*< +3 @4 ?3 9 4:' +3)29 B53* '4*3?' '@39' =29 4//76'3?' '*' +3 5 (+'/2)' 2<3' @(' +3 3)3@42*9$B =+4 2 3 *253?' 2: 3' 4*3 4:' +3 (/24*'?9' 2*?' 579' @3 /4*9'?3 3?' 29 3)29<'2*9' 4 579' +3 #4)46'2*9' 254*< =+493 547* 2'*9 +2' ';3' 2E39' 9 '93G :4' +3 3)29B J <'2*9 =+4 ?=3)' '*' '2*?' /'2 +79' 2 3'*' +3':4 53' 4:' +393 '9)2*?9 /2))3?' # 4)46'2*9 +3' '@39 4*' +3 /+3)479 =3 3 '*?33?' 535@3 90 4:' +3 56+'/ (4*'3)32<73$ @7' +'9 '9 *4 6 44:' 4:' +3'' 3))3*'/' 4 '<'*'G :4' +3 +3992)'2*9 =3 3 254*< +3)32?'*< 56+'/ (4*9$ 2*?' +3 52'*' '3' '*' +2' 2994/'2 '4*' =29 3)'<'4*' '*' =+'/+' +3 3)29<'2*9 2*?' 3))3*9 2< 33?

*' +3 *4 +' +3 @47*?2 (' 299'<*3?' @(' d 9/+()79' 4' +3)2*?' 4:' +3 3)29<'2*9 '9' +3 (54*' 2*?' +3)<49'$ 2' ?39/ '6 '4*' =+'/+' '*' +'5' 579' @3 2E3*' 29 ?39'<*3?' 4' @3 <34< 26+'/2))(' /4 3/' =+3 +3' +3 ';3' =+'/+' +3' /2))9 +3)<49 @3 '*'))('2' 4' '*' 2/3?4*'2G 2*?' +79' +3 '*/)7?39 2/3?4*'2' '*' 3)29<'2' +3*' 2/3?4*'2' +2?' @3/453 2' < 32' E'*<?45' @3 52'*' 62' 4:' +3 2/3?4*'2*' 6346)3 =29 52?3 76 4:' 33E9')) '2*9' c4*'2*9' 2*?' ' 2/'2*9$ @7' +3 /4 3 4:' +3 *2 '4*' =29 9 '))' 2 63/7)'2' 2/3' =+'/+' /2*' *3' +3' @3 /4*C 9'?3 3?' 29 33E *4' 29))('2*' ' +4)?' +2' +'9 44 =29 3)29<'2*' 4*' +3 27 +4 ' (' 4:' d 9/+()79' 2*?' 4*' 2 ;2 '3 (' 4:' < 47*?9' 54*< +3 (/24*'?9 =3 :'*?' 2' 2/3?*79G '*' 2)3<3*?2 (' +'9 4 (' =+'/+ p;29 6 4@2@)(' ?3 ';3?' : 45' +34645679' +3 97@,3/ 9 4:' +3 :' 9' E'*< 4:' 2/3?4*'2 2 3 /2))3?' 3)J9<'2*9'JG 2*?' +3)'5'4 9

(*482-/ @' ' (-1"@(,2-/ 5' N' 1L"'.*4 X1@50-' H!2G '".(,/ 4'('

18(1' 1@18 H!"'0 "!!0+-' , -' C.11D -'"'1' '0 ":05" .1! 7 02-' . '1-' 6.04' ',1' *..,18 "8-? S:1' 17)' @' 5'B '(#? ',"' -/ 80" 6.04' ',1' .2-("8-/)2" -2(,'"-'5.0(11:1:'6.04' "40',."(1 A 2-' 8/'

2))39 I .G 4*' +3' 3))3964* ' =4' 4:' +3' ' 4=*9' =3 3' 9 '))' 3A 2* ' '*' +3' ?2(9' 4:' 3 4?4 79 I .G (H'/79' =!29 +3' 9' 7* ')' +3' ')39'2*9' 52?3' +3593);39' 529 3 9' 4:' ' I IG 2*?' +3' 2/ '2*9' 2' 2/3' 4:' +3' ' 9 4/E' ?=3) ' 4*' +3' 4 +3 ' 9'?3' 4:' +3' 9253' '9)2*?' 4*' +3' /429 ' :2/'*< +3' 4964 79 I J' 4' 64'* ' '*' +3' +'9 4 (' 4:' +3' ?':)%7B 9'4*' 4:' *2 '4*9' 2?5' 9' 4:' @3'*< 52?3' 47 ' =' +' < 32 3 ' +'9 4 '/2)' /3 2'* (' +2*' 2663 2'*9' 4' +3' 9 2 353* 9' =+3*/3' +'9' 9752 52 (' +29' @33*' ? 2=*' ' ='))' +3 3:4 3' E336' ' ' 262 ' : 45' +3' 46'*'4*' =+'/+' ' 9 2 3' 53 3)(' 29' 2' /4*,3/ 7 3' +2 ' +3' 37/ '2*9' 2*?' #2 ?2*'2*9' 4(' 2*?' 3/ 4 ' 47<+ ' 63 +269' 4' @3' /4*9'?3 3?' 29' @3)4*<'*< 4' +3' 3)29<'2*' 2/3 ' +3' 932 ' 4:' +393' '@39')2(' @3C =33*' +3' 3)29<'2*' 93)353* 9' 4*' +3' 3))3964* ' 2*?' '*' ' 4)'9 ' +2 ' +3(' =3 3' *4 ' + (<'2*9' +3' 33E' 6+')4)4<3 9' /)32)(' 63 /3';3?' 2*?' +2?' 3;3*' 2' 9796'/'4*' +2 ' +3(' =3 3' *4 ' @2 @2 '2*9' 2 ' 2))' //4 ?'*< 4' +3' 32)'39 ' 33E' 2//47* ' #2 ?2*79' /253' : 45' /2?'2 ' +3' 3)29<'2*' /47* (' 2*?' : 45' 254 + 2/3 ' +3' 3)29<'2*' '9)2*?$' 2//4 ?'*< 4' +3' 4*3' 2?46 3?' @(' "' <') Y :4 ' 29B' 9'53?)(' +3' ?'?' *4 ' '*;3* ' ' Y : 45' +3' (+3*'2*' /' (' 4:' 4 (+79 ' +3' /26' 2)' 4:' +493' (+3*'2*' 3)29<'2*9 ' =+493' =2*?3 '*<9' 3 5'*2 3?' '*' +3' '9)2*?9' 4*' +3' /429 ' 4:' 254 + 2/3' IJ'

K 7"', 8-/ 8 ' B' 1' 42-" ,"@1' 6028:' ', -' -'"'1:' 8' ', 1' (,.0G 8 (!1' +, (,' ,1' 920'1-' 8' -51"D 87' 06' ', 1' .1-'0."' 08' 06' ', 1' '0+8' "6'1.' ', 1' 1".', 92"D1/ +,18' 6.04' "' 1!"-7 "8' ")1("41' "' 04"8' -1''!1G 418'

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Y' ,"' 0.*',2-/ 0.' ', 1' ('*' 06' 0.*',2-/ 42-" 41"8' 0.'08"/ -' ": 4 ''1: ' ,1' 5"--"71-' 5.0@ 87' ', -' ".1' (0!!1('1:' 8' 0.(1!! 8 3' "8:' ', 1' 081' 6.04' ! 2-' -' :1(- @1' 8!*' " 42-")1' .1414)1.1:' ', "' .7 !/ "6'1.' ', 1' 4 "881.' 06' ', 1' !"' 1.' 501'-/ "!!0+-' , 4-1!6' 0' 2-1' 2(,' 8" 41-' + ',' "' 700:' :1"!' 06' !"' '2:1' 8' ', 1' 4*', 0!071.-' +1' 6 8:' 418' 08' 06' "' 0.*',2-/ +,0' -' " .0I"8/ ', 1' -08' 06' H". -? 1! ' !"8 (2-/ 920'1:')*' H".', 18 -/

+3 6 4< 399 4: 5 (' '*;39 '<2 '4* =')) @ '*< 53 @2/E 2<2'* '* 4 +393 3<'4*9 :4 +3 6 393* = ')) 9+263 5 (' /47 93 =' + *329 + 47<+ +3 932 4=2 ? 39 63 '2 +3 2/ '2*9 4* +3 3))3964* =3 3 +3)? 4! +2;3 /453 : 45 7@432 =+'/+ +2? 2*/'3*)(' @33*' /2))3? 24 '9 ' '* +2 '9)2*? 44 29 '* +3992)(=3 :'*? +3 39 '232*9. ;3*' 254*< +3 (/)2?39 +3 39 4: =+'/+ =' + +3 3A/36 '4* 4: 9453 9/2 3 3? +3*'/'2*' 93)353* 9 +2? @33*' 6346)3? @(' 2 '2*9 *? 79 =29 2 3)29<'2*' '9)2*?I0 +3 # (46'2*9 4: (+*79 2)94 52(' @3 3<2 ?3? 29 3)29<'2*9 +3 2?' '4* 4: +3' +2;'*< ?=3) 2)4*< =' + 93;3 2) 4 +3 2/39 '* 3 3 579 6 4@2@)(29 '* +3 /293 4: +3 #4 '2*9 *253? 2)4*< =' + +35 3:3 4*)(' 4 2 /4)4*(' II

' + 3<2 ? 4 2)(= ')) @3<'* @(' 35'*?'*< +3 32?3 +2 +3 93 :9 4: +3 2)'2* 33E9 =3 3 /2))3? 3)29<'2*9 BW.' 2*? +2 +3(' 579 +2;3 @33*' 3*4 '2*9 94 +2 +3 =+4)3 3*4 '2*' 6467)2 '4*' 4: 947 +3 *' 2)(' 579 @3 2?5' 3? 4 @3 3)29<'2* *' +3 *3A 6)2/3 ' '9 2 39 3? @(B2' +49 4: 27 +4 ' '39 +2 +3 3)29<'2*9 =3 3 2 4*3 '53 93)3? 4* +3 /429 4: 7 '2 3 2 3 3;3*' 2997 3? @(' 3 4?4 79 +2 +3 9253 6346)L 2 2/3 =+4))(' ?'::3 3* : 45 +3 79/2*9 =3 3 '* +'9 ?2(9 9 ')' '*+2@' '*< 2 /' (' '* +3 +32 4: +3 /47* (' +'9 /' (' #'4*(9'79 '9 /3 2'*)(' '<+ ' '* 976649'*< 4 @3 4 4*2$ +2 '9 +3 4 4*' =+'/+ 2//4 ?'*< 4 3))2*'B /79 =29 4//76'3? @(' +3 3)29<'2*9 2*? : 45 =+'/+ +3(' 93* 47 /4)4*'39 + 47<+ 79/2*(' 23 3 44

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K 8,-H,0.08 -/ 920'1:)* 08*- 2-/ 6',1.1": 87 8 02.'1: ' 08-06 1.0:0'2- +"-G "-' -' 920'1:)* I 08* - 2-S F#/ 8-'1":06 G 80 081 +02!:6" ! '0 51.(1@1','"' ',1''+0 (08'1450."8102-, -'0. "8-".1 -51"D 87 06 ',1 -"41 ('* 1!!"8 (2- :1. @1:',1-1 H1!"-7 "8- 6.04 ,1--"!*3 ', - - (!1".

7*?3 +3 *253 4: <())2 '9 7*':4 5)(36 393* 3? 29 +2;'*<@33*2 3)29<'2* /' (@3:4 3 ' :3)'* 4 +3 +2*?9 4: +3 79/2*9 2*?? 29 +3 79/2*9)3: +3 :2 < 32 3 62 4: +3 4)?? 6467)2 '4* '* +3 /47* '39 +3(97@?73? +'9 =47)?? :7))(2//47* :4 +3 /4**3A'4* 52'*C 2'*3?? @(+2 /' (=+'/+ 254*< +3 33E9 9 ')) 3 2'*3?

1@18 6.04) - -'"'1418 ' , " ,1 . D 87- +1.1 :1-(18:1: 6.04 H1!"- 72- "8: :1-(18:1: 6.04 H1!"- :"27, '1. 06 H1812- ? (045".1 08*- 2-/ B ? "8: 1G .0:0'2- 1;5.1--!*-"*- ' , " 8 "8(18 ' 41- ' , 1* , ": :+1!" 8 ,1- -"! 0' - ,1.1 -80 ' , 1 -! 7 , '1- 7 ⅈ0 4 : 60. -2-51(' 87 08*- 2- 06 , "@ 87 "!'1.1: ' , 1 8"41 :01- 80 -114 '0 , "@1)118 :2!*' 80' (1:/ ' , " ' , 1.1 - "7.1" (, "-4 , 1.1 8 ' , " 6"4 !*' 06 ' , 1 4 "82G -(. 5'- 06 1.0:0'2-/ +, (, - 8(045".")!*' , 1)1- "S-11 T 1--1! 87/ 5 N " # ,1.1)1 87 80@". 02- .1": 87 8 ' , 1) ": 4 "82-(. 5'- 5.0@1- 80', 87? ', 1*' "!+"*- "7.11 8 6"@02. 06 "8 ")-2. : '* 0.1 J0@1./ ', 027, ' ', 1.1 +"- " ' .)1 06 .1-'08""8- 8 , ."(1/ 6". 8!"8:/)1'+118 ', 1 ; 2- "8: ', 1 '.*408/ ', 1.1 +"- 80 ('*' 06 .1-'c8 8 ', 0-1 5".'-? "8:' , - ' .)1 +1.1 , ."("8-3 +, !1' , 1 *.., 18 "8- 08 4028" ', 0-/)1*08: +, 04 ', 1* :+1!'/ +1.1 H1!"-7 "8- 8 1.0:0'2-/ 08 ', 1 (08'."./ ', 1 5105!1 06 .1-'c8 ".1 H1!"-7 "8-/ "8:' , 1 *.., 18 "8- '0 ', 1 -02', 06 ', 14 ".1 "'0'"!!*: 661.18 ."(1 8 "8 28) "- (08- :1."' 08/ 081 ("880)2" 51.(1 @1 ' , " 1.0:0'2- ":"5'1:' , 1 "((028 06 1!!"8 (2- ")02 ', 1 4 7."' 08 06 ', 1 H1!"-G 7 "8- 02" 06 ,1--"!*' "(.0--' , 1 :. "' (' '0 5 8 " "8: 0.'08"/ "8:' -2550-1:' , " "6'1.+". :/)1 87 0@1.50+1.1:')*' , 1 '.2-("8-/ ', 1*' .140@1:' '0 ',18-/ ' , 4-1!6 .1!"' 87 ', 1 . 62. ', 1. +"8:1. 87- '0 1480- "8: "!087 ', 1 1!!1-508' ,1 :18' '* 06 ', 1 !"872"71 -50D18)*' , 1 H1!"-7 "8- 08 ', 1 1!!1-508'/ "8:')*' , 0-1 +, 0 -'" :')1, 8: 8 '.2. "/ +"- " 51.61('!* @"! : ".7241 8 '0' 5.0@1' , - ,0-1 06 0.'08" +1.1 ', 1 40- +1-'1.!*/ ', 0-1 08 ', 1 1!!1-508 ', 1 40- 1"-'1.!*/ 06 "!!' , 1 .14 " 8 87 H1!"-7 "8-3 "8: ', - +"- " .1"-08 60. 8" 4 87 ', 1-1 "8: 80 0', 1.-/ $00 " dLL 8(L"'.*0(" (0@. I.0L .5" " !' & ' '" ( ) * ', "-)118 ', 027, 8(.1:)!1' , " 1.0:0'2- -, 02!:' , "@1' (045".1:' , 1 !"872"71 06 -4"!! 5!"(1- -0 .140'1 6.04 1"(, '0', 1. ' , e : 66 (2!'* "551".- '0' 41 06 80 40G 418' ' + . '1.' +, 0 920'1- 7*5' "8/ (*', "8/ "8:' H1.- "8 +0.:-/ +"- "- +1!! "+".1 06 ', 1 450.'"8(1 06 !"872"71-/ "- +1 ". 1? ', - @1.*'5"--"71 5!" 8!*' -, 1+- ', " ,1 +"- "8; 02- '0 4 "D1 02" +, " .1!"' 08 ', 1 : "!1('- 06 ', 1 "- " "8:' T 1-)0.1 '0 1"(, '0', 1.? ', 1 1!!1-508 , 1 , ":' @ - '1:H "8:' 8"' @1- 06 0.'08" 4 7, " 1"- !*')1 41 + ', ' " ,2. ' 11 ', 1 H, !0!07 ("! 2-124/ '

' 9 2*/'3* * *253 =' + +3 #3)6+'/ 4 2/)3.G 3;3* 976649C '*< +2 ' ' 9 /4*R739 '@(+3 79/2*9 =29 *4 '97@93R73* ' 4 +3 93)353* '4: +3 +4/232*9 '* (5 79 ' +3 *2539 4:)9'75 2*? (<' ' 4=*9 4* +3 /429 ' ?363*?3* ' 4* <())2 ' @32 ' +3 9 256 4: 2 6346)3 54 3 +2* +2): 33E ' +2;3 2) 32?(/' 3? 2 62992<3 !=+3 3 +3 <())232*9 2 3 3 53? +3992)'2*9:G +3 +'9 4 '2* =+4 92(9 +2 ' 2 B R7'*' =29 2 /' (4: +3992)'2* 4 '<'* I I ' ?39'<*2 39 ' ' +3 3@(29 3)29<'2* ' +3 9253 +4)?9 <44?' 4* +3 46649' 3 /429 ' 4: 2;3**2 ' =+'/+ =29 92'? 4 +3 2 +39C 92)'2* 93)353* I . ' +'9 =47)? @3 2 ' ;2 '2*/3 =' + 2) +'9 4 (' =3 3 ' ' 7*?3 9 44?' '* +3 9253 93*93 '* =+'/+ (2/793 2*? 4 /(2 =3 3 /4)4*'39 4: 4 '* +G :4 ' +3 +3992)'2*9 9/2 /3)(47/+ ' +3 932/429 $ 2*? +2? 2*(/4)4*'9 9 @33* 93* ' 47 ' : 45 2<2923 +3(=47)? *3;3 ' +2;3 92')3? 47*? 2)32 ' 2*? 947<+ ' 47 ' +3 3<'4*9 '* +3 '* 3 '4 ' 4: +3 ? '2 '/ ' +3 = ' 3 ' =+4 793? +'9 3A6 399'4* ' 579 ' +2;3 @33* :4))4='*< 3))2*'/79 ' =+4 ?3 ';3? 2) +3 3)29<'2*9 @3 =33* 6'*2 2*? <())2 47 ' 4: +3992)(': '29 +3 3/(?39 ?'? +493 '* +3 947 + 4: 2)(': 45 /2?'2 ' 6'*2 ' =+'/+)'E3 <())2 +2? ' 9 3297 (' 2 ' #3)6+'I . ' 2 /' (4: 97/+ 2* 'R7' (+2 ' ' =29 92'? 4 +2;3 @33* :47*?3? @(#'453?39 I I ' +3 6 3?3/3994 ' 4: " 3*'/3 '* +3 ?45'*'4* 4;3 ' +3 ? '2 '/ ' '9 3 53? 2 3)29J2* /' (' @(' #'4*(9'79 I.G 2 9 2 353* ' =+'/+ '9 *4 ' 4)493 ' 9 / 3?' ' : 45 @3'*< 2994/'2 3? =' + +3 5'< 2 '4* ? 325 ' 4: @(3))2*'/79 ' =29 2 9 ') =4 93 5'9 2E3 +4=3;3 ' =+3*)2 3 ' = ' 3 9 ' :4 <3 '*< +3 ?'9 '*/ '4* @3C =33* +3 3)29<'2*9 2*? +3 33E9 ' /2))3? ' ' 2 3))3*'/ /' (I I ' 7/+ 2 9 2 353* ' 579 ' 2)=2(9 @3 3 4*3479 =' + 3<2 ? 4 2) 4=*9 '* 354 3 /47* '39 ' :47*?3? @3:4 3 +3 3 7 *4: +3 3 2/)'?9 '

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+'*<' 3)93(4' 39 2@)'9+' +3(*4 '4*' +2' +3(33E9(2*?'
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:2/' ?'?' *4' <4' @3(4*?' =+2' +3('' :47*?' '*' +3' 32)'39'
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/(5*79' =+4(+3 3(29(3)93=+3 3('9(3632 '*<' =+2' +3(
:47*?' '*' '5579(2*?' 4 +3' 32)'3' = ' 3 9' 92(9G *3A'
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1.@ 2-' 08' /81 :/ ; ' BF' "' -114-' 450--)!1' ',"" ', -'
-,02!:')1' ',1' . 7, "8" 41' 11' ',1' '1; " '0' 80'1-/ N / F

2993 ' < +2 +3(*4 4*)(35@ 2/3? +3 2 '*9 @7 +3 5@ '2*9 794*'2*9 2*? 52*(4 +3 '@39 7*?3 +3 /4*'54* 2663))2 '4* 4: (+3*'2*9\\ * +3 +'9C 4 '/2) 2<3 +3 *2 '4* 63/7)'2)(94 /2))3? @(+35 =3 3 +3 79/2*9$ =' + =+45 +3' /4)4*'39 '* '/')(2*? 2)(=3 3 /4* '*72))(:4 5'*< 3)2 '4*9 3' +3 4: =2 4 632/3 2*? =+493 :253 9 44? +'<+ 3;3* '* 3))29 4* 2//47* '4: +3' 64=3 +3' 2 2*? +3' =32) + ;3* @3:4 3 +3 2/3?4*'2* 2<3 ' 52(63 +269 +2;3 @33* 3* ' 3)(:4 <4 3* +2 +3 79/2*9 +2? 4*)(4@ 2'*3? +3 *253 4: (+3*'2*9 : 45 +2;'*< /4*R73 3? (B +3*'2' 2*? @3/453 +3 529 3 9 4: +493 (+3*'2*9 =+4 +2? *4 R7' 3? +3' +4539$ 2*? +2 +3 2*/'3* 2C ?' '4*9 2@47 +3 (+3*'2*9 =3 3 *4 =2(/4**3/ 3? =' + +3 79/2*9 *)'E3 52**3 ' '9 '52<'*3? @(52*(63 94*9 4 +'9 ?2(+2 +3 #)252 '2*9 4: +3 /)2;4*'/ 2/3 @3'*< /45 54*)(/2))3?))('2*9 2 3 ?3C 9/3*?3? : 45 +3 2*/'3*))('2* 6467)2 '4* 4: +3 9253 3<'4*9 2*? /4*93R73*)(+2 +3)2 3 =3 3 2 /)2;4*'/ 6346)3$ 2* 3 47 =+'/+ =+3 3 ' +29 4*/3 <2'*3? 2 :44 C '*< ' '9 793)399 4 /45@2 =' + +3 /' /759 2* '2) 3;'C ?3*/3 2::4 ?3? @(+3 +'9 4 (4: *2 '4*2) 5'< 2 '4*9 +'9 /4*:79'4* <2;3 '93 4 =4 46'*'4*9 2)'E3 7*C 3*2@)3 2*? < 47*?)399 4* +3 4 '<'* 4: +3 79/2*9 #'4*(9'79 =' + 947*? ,7?<353* /4* 3*?9 2<2'*9 +35 @4 + //4 ?'*< 4 +3 4*3 Y =+'/+ =29 97664 3? @(+3 9 4 (4: +3 (93*'2*9 3)2 3? @(3 4?4 79 ,79 29 +3 @2? +32 ? ' 254*< +3)4*'2*9 @7 63 +269 =' +47 2*(*4 '4* 4: 266)('*< ' 4 +3 79/2*9 Y +3(=3 3 2 (?'2* 2/3 =+4 =3 3 /4*?7/ 3? 4 2)('@((+3*79 +3 94* 4: (9 //4 ?'*< 4 +3 4 +3 +3(=3 3 3B)29<'2*9)''9)29 46'*'4* +29 9 7/E 44 94 ?336 Y ' '9 94 /4*;3*'3* :4 +493 =+4 2 3 =4* 4 32 4: +3 79/2*)2*<72<3 =' +47 3' +3 / ''/2) 4 < 25C 52 '/2) E*4=)3?<3 Y +2 ' '9 *4)'E3)(4 @3 3* ' 3)(

3A ' 62 3?$ 7*)399(+3(549 ' @ '))'2* ' ?'9/4;3 (' 4:' 47 ' ?2(9 ' +3(3A6)2*2 '4*' 4:' +3(+'3 4<)(6+'/9 ' 9+47)?(@3(:4))4=3?(@(' =+2 ' +3 3('9(57/+')399(< 4'5?(4(+463(:4 ' +2 ' 4:' +3(79/2*')2*<72<3

+3('))79'4* ' +(' =+'/+' +3(2*/'3* 9(+3593);39(=3 3(5'9)3?' '9(*4(4 ?'*2 (' 4*3 ' ' =29(3;'?3*)(' +3(/79 45' 2 ' +3('53(4:' +3(3)464**39'2*' =2 ' 4(/2)' +3(4)?(3)29<'2*' '*+2@' 2* 9(4:' 35*49(2*?(5@ 79 ' (93*'B(2*9. I I' 2*?((93*'2*' 3)29<'2*9 ' +7/(?'?39(?439(94 ' =' +47 ' +3(9+<+ 39 ' '* 3* '4*' 4:' ? 96)2('*< +'9( )32 *'*<' 4=' +3(<';39(2 3(2)94(/2))3?((93*'2*' 3)29<'2*9(@(' 46+4/)39('*' +3(*2/+790(+'9(=29(/476)3?(=' +' +3(9 4 (' 4)?(@(' 3))2*'/79 I ' +2 ' +3(3)29<'2*9 ' 4*' @3'*< ? ';3*' 47 ' 4:' +3992)(I ' @(' +3(3))3*9 ' / 49 ' +3(? '2 '/' 2*?( )2*?3?('*' +3(';3 ' 4:' 6'*2 ' 2 ' +3(547 +' 4:' +3(4 ' 2*?(: 45' +3*/3(96 32?('* 4((+3*'2(2*?(93)3?(+3 3 ' 4(+'9(2//47* ' 2*?(+3(/4*/)79'4*9(? 2=*' : 45' ' ' #'4*(9'79('*' 2(96' ' ' 4:' '* 3))'<3* ' / ' '0(/'95' 4@,3/ 9 ' +2 ' +3(79/2*9(+2?(*4 ' +3(354 39 ' 3935@)2*/3('*')2*<72<3(2*?( )2=9(4(+3(33E9(4 ' +3(3)29<'2*9 ' 2*(' 54 3(+2*' 4(+3((?'2*9 ' 2*?(+2 ' +3' ' *2 '4*2)(2?' '4*9(36 393* 3?(+35' 29(2(6 '5' ';3(2/3 ' ' '9(2(6' (' +3(?'?(*4 ' <4(2(9 36(:7 +3 ' 2*?(52E3(793(4:' +3('*:4 52 '4*' +3(64993 9 ' 4(3A6)2'*' +3(4 '<'*' 4:' +3(5'9 2E3

%4 ' 29(=3(E*4=' : 45' #'4*(9'79(+'593):' ' ' =29(3)2 3?(@(' (9')79(4:' 39@49 ' +2 ' +3((+3*'2*9 ' '*' +3(+463(4:' 39/26'*< : 45' +3(67@)'/' /J25' '39(=' +' =+'/+' +3(' 3 3(/+29 '93?(@(' +32;3* ' @3/2793(254*< 4 +3 ' ' +39(+3(' +2?(*4 ' 4::3 3?(76(+2 ' 4:' +3' ' /+')? 3*'J(R7' 3?(+3' ' +4539 ' 2*?(/4* '*73?(425'*< 2@47 ' :4 ' 2( )4*< '53(@3(:4 3(+3(' 2<2'*' 93)3?('*' 2(:'A ' 2@4?3$ +2 ' +493(=+4

-' ',1.1("8*' 8-'"8(1(06(',160.4(' , ' 8-'1":'06(' (' 8("8*' +. '1./' +,1',1.(5.0-" -"0.(501'/ "8'1. 0.('0(H!"'0(f

((08*- 2-/ ' ' K 08*- 2-/ ' '

08*- 2-/ B 08*- 2-/ '

92= +35 +7 <4'*< :4 + 2*? 3 7 *'*< @2/E <2;3 +35 +3 *253 4: 4 % 2*? +2 +3(?=3) :4 2 =+')3 '* '/2 2*? +3 3 @7') +3 3)29<'2* =2) 47*? +3 / 464)'9! I . +' 2//47* 29 #'4*(9'79 +'5 93): 352 E9 ' ,79 +3 3;3 93 4: +3 4*3 J;3* @(3))2*'/79 +3 3 ' 4*3 +'*< +4=3;3 +2 +3 /47)? *4 @3 9 7/E @(29 =3 2 3 4* 97 ;3('*< 2* '*:'*' 3)(< 32 3 *75@3 4: 2?' '4*9 Y *253)(+2 +' '*;3 9'4* 4: 2 9 4 ('* 4 ' 46649' 3 ' 2 /+2 2/ 3 '9 '/ 4:)3 <3*?2 (+'9 4 (I +3 3 (54)4<(=+3 +3 '*;3* 3? 4 4*)(3 2')3? @((9')79 947*? /+')?'9+ 3*47<+ &3 =3 /2* 329')(933 +4= ' 2 493 47 4: +3 *4 '4* +2 +393 3)29<'2*9 =+4 /253 '* 4 33/3 ' 45 2 3543 :4 3'*)2*? 579 +2;3 @33* 2 4 2))(?'::3 3* 6346)3 : 45 +3 6 '5' ';3 33E 2/3 2*? +2 *4 /' /'7*9 2*/3

08*- 2-/

 8(1 " (!1". 8- 7, 8'0 ',1 8"'2.1 06 ',1-1 8@1.- 08- + !! 5.1-1.@1 2- 6.04 ", 24, (. 06 -'24)! 87)!0(D- 8 ',1 6 1!: 06'!1718:G ".* , -'0.*/ "8: '2.8 -'"'1418'-/ +, (, -114 '0 4 ! '"'1 "7" 8- 1@ :18 '.2',-/ 8'0 '1-' 408 1- 8 ',1 . 6"@02./ 4"*')1 2-162!'0 5.040'1 -2(, "8 8- 7,)*' " 61+ 1;"45!1- 06 @1.* : 661.18 D 8:- ,1 .70 -" !1:)1'+118 ',1 6!0"' 87 .0(D-/ +, (, -15".'"'1:' ',1 -1" 6.19218'1:)* ',1 C.11D 4". 81.- 6.04 ', " ,1*08: ',1 .1"(, 06 ',1 . 8"@ 7"' 08/ "((0.: 87 '0 081 !1718: 28:1. ',1 8"41 06 *"81K 8 ',1 1"-'/ "((0.: 87 '0 "80',1. 28:1. ', " 06 H!"81'K 8 ',1 +1- 06 ',1 1".', ,1. " -' ',1 40',1. ('*' 06 C*.181 8)*"? "8:' ',1 -!"8:' 06 ,1. " -' 60.41:' 02" 06 ',1 (!0: 7 @18 '0 25,142-)* ',1)*"8 70: . '08 81 -'0.*' 4- D1- C !!2-/ " .18' 81/ ."8-04 (1.'" 8 H1.- "8 ("5' @1- 8 '"!*/ "8: -18: ',14 '0 ',1 H1.- "8 D 87 ? "80',1. 4"D1- ',1 ("5' @1- "4 "8-/ +,0 +1.1 8 ("5' @ '*' 28:1. ',1 H1.- "8 D 87/ "8: 081 06 +,04/ H*',"70."-/ - -18)* C !!2- 8'0 '"!* S 11 18'!1* 08 ',1 "71 06 H*', "70."-? +,1.1 + ', " 7!"8(1 ,1 .1)2D1- ',1 ")-2.: '*' 06 '.* 87 '0' 145!0* -2(, 4"'1. "!- "- ',1 7.028:+0.D 60. " (025!1 06 -'0. 1- # ,1 '.": ' 08 8 T ''1 D 8: 06 0.@1*/ ', " ',1 ";08- ("41 8'0 C1.4 "8* "(.0-- ',1 -1"/ 0. 7 8"'1: 8 ! D1 4 "881. 02" 06 ',1 . @0*"71 '0 . '" 8 8: 8 ',1 - ;'118', (18'2.* +1 6 8: ',1 80@1! 06 ,*!0(D .1!"'1: " 8 "8 "('2"! 6"('? 08!* - ' ,. -' "8/ +,0-1 : ")0! ("! 81;0.")!181- '0+". : " 1+ - 6.2-.'"'1:)* ',1 -18'18(1 06 ', " -"7"(02- I2:71/ ;'2- "

/47)? @3 44 :4 7' 479 4 2//47* :4 +3' @32 '* +3 9253 *253! I J

=2*?3 '* 6346)3 /2))3? 3)29<'2*9 +2? 4@ 2'*3? 93)353* 9 '* '/2 2 +3 :44 4: (53 79 2: 3 +3 #4 '2* 5'< 2 '4* I 4* /4*?' '4* 4: 63 :4 5'* 29E=4 E :4 +3 9 2 3 I +3(/253)29 47 4: 434 '2 +2;'* 9453 '53 @3:4 3 /4*R73 3? +2 /47* (' '* /4*/3 =' + +3 + 2/'2*9 : 45 +3 2?532*9 =+4 +2? *4= 3 7 *3? : 45 *3Z 7 +3' :' 9 26632 2*/3 +2? @33* '* /2 *2*'2G 2*? 2)) +2 2792*'29 /47)?)32 * 2@47 +3' 3A 2/ '4* =29 +2 +3(=3 3 '/3)'2*9Z +2 '9 94 7*9 +3 9 4 (+3(/253 : 45 +3 947 + 4: 7 '2 =+3 3 +3' E'* 2)34 39.. +2? 39'?3?'* +^*3'<+@47 C +44? 4: 2;'9/23 2 3;3* 9 +3(5 79 7*?47@ 3?)(+2;3 /2))3? +3593);39 (+3*'2*9[ )''9 *253 3C 52'*3? =' + +3' ?39/3*?2* 9 =+4 2@4?3 :4 2)4* '53 '* 35*49 2*? 5@ 79 2*? 2 3 92'? 4 +2;3 ? ';3* 47 +3 '*(23J. : 45 +3*/3 : 3 =2 ? @3'* /4563))3?

Y+ ,1-"41 8'1.5.1'"' 08 06 ',1 8"41 0((2..1: 8 ',1 '', :-? '.")0/ 5 : ',1.- 4":1 "!!2:1 '0 +, '1 ! 818 (!0',1-? '*40! L"XI* $0 U 2(,;1;5!"8"' 08-,0+1@1. "!+"*-.161. '0 ',1-1 *..,18 "8-? ',1 8"41 06 ',1 5. 4 '@1 C.11D H1!"-7 "8- -(08-'"8'!*:1. @1:6.04' ',1 "8(1-'0.'06 ',1."(1

K 1!!1 2-/ '.")0/ ; 5 :

1.0:0'2-/ @ B H"2-"8 "-/ '' (/ (

'.")0/ @ 5 : *0)I1(",1- 41.1!*' '0 4"D1 02" ',180' 08 +, (,5.1@" !1:' "4087 ',1 C.11D-/ +,18 ',1*)": (0!G !1('1:',1 . !1718:- 8 0.:1. '0 60.4 " , -'0.* 02" 06 ',14/ "8: +, (,72 :1:',1 +. '1.- 60!!0+1:)* 08*- 2- !-1',0-1 (1 ! "8-(1.'" 8!*: :80" (041 6.04 -0 6". 11',1 '1;" '0 80'1 N

"!! 4"(,2-/ 920'1:)*',1 (,0! "-" 08 .-'05,"81-/ @ '1$ 1 ',1.5"--"71- ".1 ('1: 8 !0@1.J '"! " 8' 92"/ 55 / F ,1 +"* 8 +, (,'.": ' 08- ".1 (086028:1:/ - !!2-'."'1:)* H0!*-182-/ @ F 1.1!"'1-',1 @1.*-"41 '0.* 06 ',1 *..,18 "8- +,0 +1.1:. @18 6.04 1480-)*',1 ',18 "8-/ "8: 06 ',1. + @1-/ +, (, 1.0:0'2- '1!!-"-,".G 87,"55181:'0',1 8*-1N *1".-)160.1? @ N

,1 8*- '00 +1.1 ,1--"! "8- "8: H1!"-7 "8- 0 081

@(' +3' +3*'2*9' 4' 35'< 2 3' 2*3=' +3(' 9+263?' +3' '
/47 93' 9453' 4' +3' 3))3964* J0.' 9453' 4' +3' /429' 4:'
+ 2/3' 2*?' +3' 63*'*97)2' 4:' 547*' +49' 3*/3' +7C
/(?'?39' 92(9' +2' +49' =29' '*+2@' 3?' @(' 2' 3)29<'2*'
2/3' +3' (+3*'2*9' =+4' +2?' 6 3;'479)(' @33*' 93)3?' '*'
'/2' 2*?' '*' 35*490I' +393' =3 3' +3' 4*)(' 6346)3'
E*4=*' 2' +2' '53' '*' 947 +3 *' 3))29' 29' 3)29<'2*9' +3'
3)29<'/' 3A 2/ '4*' 4:' +3' 6' 4 9' 2*?' 4:' 2))' +3' 4 +3'
3'<+@47 '<' '@39' +2;'*<' @33*' :4 <4 3*' 7' 29' +3('
=3*' *4')399' <3*3 2))(' @(' +3' *253' 4:' (+3*'2*9' =3'
/2**4' @3' 97 6 '93?' +2' 46+4/)39' : 45' =+45' *4' 4*3'
=')')44E' :4' +'9 4 '/2)' 6 3/'9'4*' 266)'3?' +3' =4' *2539'
,4'*)(' 29' +3' /4554*' 6 463 (' 4:' +3' =+4)3' *2 '4*' 4'
+3' 6 '5' ';3' 3)29<'2*9' 4:' 6'2' ' '9' ,79' 97/+' 2' 5'9C
2E3' 29' ':' 2' 63 94*' =3 3' 4' /2))' +3' '5@ '2*9' 2*?' 27)9'
7*?3' 3**79' 2*?' /'/+4 '79' 3)9+' (5 " 2*?' '9+'
23)9
' +3' 2?' '4' =+'/+' '9 4A3*79' :4))4=3?' (+2<4C
29' =99' 3 53?' 2' (+3*'2*' : 45' 4*3' 4:' +3' '9)2*?9' : 45'
=+'/+' +2' 6346)3' +2?' @33*' ? ';3*' @(' +3' +3*'2*9' $
+2' '9' 4' 92(' 3' +3' : 45' 35*49' 4' 5@ 79' +393'
(+3*'2*9' 4:' +3' Br <32*' 932' +4=3;3' 3A 3*?3?' 57/+'
:7 +3 $ 4*' +3' 3))3964*' 29' :2' 29' (H'/790I' +3'
(+3*'2*' 6' 2 39' '9' +3' 2//+'/' :2@)3' 2 3' *4' 79C
/2*9' *4' 2 3' +3(' 35*'2*9' @7' 34*'2*9' 4' (?'2*90IG
2*?' +2' +3' 34*'2*9' =3 3' 3)29<'2*9' '9' 6 4;3?' @(' +3'
253' 4:' +3' 9 4<+4)?' 2 '992' =+'/+' =3' :'*?' 254*<9

("8' -1. 02-!*')0!:' ',14' '0')1' ',1' :1-(18:"8'-' 06' ',1' .708"2'-' "8:'
06' ',1' -2)I1('-' 06' *5- 5*!1' ' -2-51(" ',"'/ "-' 8' ',1' 8-'"8(1' 06'
*_ (2-' 418' 081:' 8' 80'1' NF/' ',1 .' 1;52!- 08' +"-' '" 41.1' 6"). ("' 08/
". - 87' 02" 06' ',1' -'0.*/ + ,1',1.' '.21' 0.' 6"!-1/ ")02" ',1' 4 7."' 08' 06'
',1' *..,18 "8-' 6.04' ',18-' '0' ',1-1' -!"8:-
1.0:0'2-/ ' B' JA @' F
2' 07181-' "1.' 2-/ ' ' 080A/
V' (01'1-' -' ' ' ' @:' 1'"4' ' BN3' '
I ' ' ' ,1' ' ' '06' *(")"-' '00/@' N / 42-" 28G
921-' 08")!*' 41"8' "' *: "8' ('*

+35 29 '* 3;3 (/47* ('+2@' 3? @(' +3 3)29<'2*9 *?* *4=' =3 <3 2* 3A6)2*2 '4* 4:')'3 9 2*<3 9 4 (' 4:' +3 (?'2* /4)4*(' 3:4 3 +3 3)29<J2* 2*? 79/2* (+3*'2*9 =3 3 /4*:47*?3?' 4*3 4:' +493 :4 59 4:')3C <3*?2 (' *2 2 ';3' '* =+'/+' 4*3 64)3 '9 /4* '*72))(' 9+': '*<' '* 4 ' 9 46649' 3' ?3 ';3? +3 (+3*'2*9 4* +3 '@3 ' : 45' +493 '* 34*'2' 29 2*4 +3 ' @ 47<+' +35' : 45' 35*49 2*? 5@ 79..$ =+3 329 +3 /4*;3 93' 29 ' +2;3 9 2 3?' ' '2@4;3' =29 +3 46'*'4* /45*J6*)(' 2?46 3?' 4 3C 4;3 ' +3 3 =29 2* 2//47* ' =+'/+' ,75@)3? 3;3 (+'*<' 4<3 +3 ' 52E'*<' +3 3)29<'2*9 5'< 2 3 : 45' +3992)(' 4 (?'2' : 45' +3*/3 4 (+3*'2$ 2*? 2<2'*)32;3 (+3*'2*9 2*? <4 4 +3*9' 2*? 97@93R73*)(' 4 35*49

' '9 4 +3 3)29<'2* (+3*'2*9' *4' 4 +3 79C /2*9' +2' =3 579' 266)(' +3)'*39 '* =+'/+ 39'4? 9632E9 4:' < '79 2*? 2 '*79 29 3'<*'*< 4;3' 2))' +3 3*4=*3? (+3*'2*9 $ 2*? ':' =3 E336 +'9 ?'9 '*/ '4* '* ;'3= ' 2' *3=')'<+' '9 9+3? 4;3' +3 +'9 4 (' 4:' +3 /47* '39 4* +3 /429' 4:' +3 (+3*'2* 932G :4' : 45' +3 '@3' 4 +3 @4 ?3 9 4:' 3*4 '2 =3 :'*? +3 93)353* 9' *4' 4:' +3 79/2*9' @7' 4:' +3 (+3*'2*9

' 2 +'9 4 (' 4:' +3 4 '<' 4:' %)4 3*/3 /456')3?' 63 C +269 3;3** @3:4 3 +3 '53 4:' +2)352<*3' : 45' 9 2*<3 6467)2')3<3*?9 2*? 643 '/2)' 947 /39' +3 97@,3/ 9 4:

'.")0/ (5', -.':

2(,'+"-' ',1' "((028" 7 @18)* 8' (! :1-3 8"*/ ,1' (04) 81:' "8 14 7."' 08 6.04' *: '" 28:1.' *..,182-' + ',' 081' 6.04' 1480-? '.")0/ 5 :

A H!2'".(,/ 042!'('

1- 0:/ ,10708'@' N' 2" +,"" ".1' ',1'-"(.1:' -50D18 06' 8' ', -'5"--"71' f

Y' ,1'0. 7 8"!' "' 8' -'5.1-1.@1:' 8' 4 "82-(. 5'3 "8:' "8' '"! "8' @1.- 08' 06' " -' 8-1.'1:' 8' ',1' (,.08 (!1' +, (,')1".-' ',1' 8" 41' 06' "! -5 8 3 +,1.1' ',1' 2. 8 '0((2./ 8' ('F' 81'06' ',1' 40-" 81;5! G (")!1' 921-' 08-' -' ',1' (0881; 08' +, (,' 80' 081' ("8' 4 -'"D1')1'+118' ',1' 8941' 06' '1-2!'" "8:' ',1' N ',' 6."7418" 06' 1- 0:

7579' +3' ?32 39' 2 3' /2))3?' 7 '*'$' +2' '9' (+3*'' +3' 9253' *253' 6 393* 9' ' 93):' '*' +2' 4:' 7579' 2*?' 4:' +3' 9+36+3 ?' D! +79'...' 2*?' =29' +453' =' +47' 2*(' /+2*<3' @(' 2' :25')(' 4:' +3' 25')'2*' +4793' ?32' '9' ?39'<*2 3?' 29' 2' 3)29<'2*' /' (' @(' "' <')' =+3*' +3' 3 59' '' 2*' J;3' 4*3' :47*?3?' @(' #2*23I I' :' ?32' @3' 2?C 5' 3?' 4' @3' 2' (+3*'2*' /' (' +3')3<3*?' =+'/+' 36'!3B 93* 9' 2<7* 75' 29' 2' /4)4*(' 4:' +3' ?32 39' =47)?' 3AC 3*?' +3' 96 32?'*<' 4:' +3' 3)29<'2*9' 29' :2' 29' 62'*G =+3 3' +3' 2*/'3*' /26' 2)' 2 2/4' +29' 2)94' @33*' /4*C 9'?3 3?' 29' 2' (+3*'2*' /' (I.' '' 52(' @3' 4*)(' : 45' '9' *253' (3'63 +269' *4' =' +47' 3294*

"' <')' =+493' /2 2)4<73' 4:' +3' 2 5(' 4:' 7579''9' /45C 6493?' =' +' < 32',7?<353*' 2*?')32 *'*<' 52E39' +'9' E'*<C ?45' 32/+': 45' +3' '@3' 4' 3 2/'*2' *' +'9' /429'=3' :'*?' * '75'=+'/+' +3' 33E9' @(' 4*3' 4:' +3'' 7972)' 63 C 94*':'/2 '4*9' 92'?' +2?' @33*':47*?3?' @(' 2' 94*' 4:' ' /3' 2*?' @ 4 +3' 4' +3' :47*?3' 4:' ?32' 2*?' 453.I6' 2*?' ' /3'" 579' @3' /4*9'?3 3?' 4' +2;3' @33*' 4 '<'*2))(' 2' 4=*' 4:' +3' (+3*'2*9' 4;3' +3' =+4)3' 4:' =+'/+' *2 '4*' +3' 94*' 4:' +3' <4??399' 7)3?' 3 2/'*2' '9' 92'?' 4' +2;3' @33*' 2' 2 '*' :4 5':4' 2/+'*2Z' 4=3'?4=*' +3' /429' 4*' +3' ' '9' 2*?' '*' ' 9' *3'<+@47 +44?' 9 44?' 93;3 2)' /' '39' 57*/)23' 4 5'23' '*73992IQ' +3' *2539' 4:' =+'/+' 29' '' '9' ;3 (

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18(1' 05,0(!1-/ 8' ',1' 5"--"71' 920'1:' ")0@1' S 8' 80'1' #/ ("!!1:' ',1'72!6' ',1' *..,18 "8'3 "8:' ',1'-1'": 1'" 81:' ','"8"41

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+'9 97@,7<2 '4* 4: +3 '/3)'2*9 '* 2 '75 2*? '* +3 /47* '39 4 +3 947 +4:' ' '* /4*93R73*/3 4: =+'/+ 2 64 '4* 4: +35)3: +3' +4539 =29 3<2 ?3? 29 +3 /2793 4: +3' 35'< 2 '*< 7*?3 +3 *253 4: (+3 *'2*9 4 +3 329 3 * 62 9 4: 33/3 2*? 4: +3' / 499 '*< 4;3 '* 4 '/')(+'9 =29 36 393* 3? 29 +3 :)'<+ 4: '/3)79 : 45 453 4 4 <39 +3 E'*< 4: 2)'2 4 ?3 3 5'*3 +3 ?2 3 4: +'9 3;3* /+ 4*4)4<'/2))(' 'R7' 3 47 4: +3 R739 '4* 6 ' 52 3 9 *4 4 79, +2 +t'9 79 6)2/3? ' 3'<+ (' (32 9 @3:4 3 +3 4,2* =2 2*? +7/(?'?39 6 4@2@)(':4))4='*< * '4/+79 ';4 /3* 70 '39)2 3 9+2) 3 7 * +3 32: 3 4)''9 3;3* =+'/+ '9 +3 32)'39 4: 2*(' 27 +4 ' (' '* +3 +'9 4 (' 4: 2)(. +'9 +4=3;3 '9 +3 6)2/3 4 352 E +2 'E3)79 2*? 2)79 29 '9 6 4;3? @(' 52*(' '*9 2*/39 4: 9'5')2 /+2*<39 '* =4 ?9 2 3 +3 9253 *253 +3* +3 4/ '2*9 :' 9 93)3? '* 2)(+3(':47*? '/3 2*9 2 +3 :44 4: 547* ` 36+('75 +3 9253 6346)3 =3 3 9 ')) +3 3 '* +3 947 +3 549 62 4: 2)2@ '2 ?7 '*< +3 3)464**39'2* =2 +7/(?'?39 /2))9 +3 2)'3 39 4: * '44+79 /3)'2*9 2*? +3' E'*< 2)79!Q I 3 <39 =+45 * '4/+79

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3 5 E'*< 4: +3 3*4 '2*9 'g 9 ()3? '*< 4: '/')'2 '*' 2 2?' '4*' =+'/+' =29 3;'?3*)(' 4: ;3 (' < 32 ' 2* 'C R7' (' 2*?' 4' 52E3 ' ' /)32 ' +2 ' +'g *253 35@ 2/3? +3 =+4)3 4: +3 2)(' '*+2@' 3? @(' +3 3*4 '2*g '*' ' g ='?39 ' 2*<3 ' ' 'g 'g 36 393* 3? 29 +'g ?27<+ 3 ' *' 2 2?' '4*' 6 393 ;3? @(' 3 ;'79 p ' 2)7g E'*< 4: +3 '/7B)'2*g =29 92'? 4' +2;3)3? +'g 97@,3/ g : 45' '/')(' 4 2 '75$ 2*4 +3 ' 3A256)3 4: +3 '*;3 9'4*g 94 /4554*' '*')3<3*?9 ' 4' =+'/+' ' 52(' +3*/3:4 =2 ? ?335' ' 9763 C :)7479 4' ?' 3/ ' +3 32?3 0g 2 3* '4*' ' 'g 3*47<+' +2 ' +'g 9 4 (' 'g 2' *3=' 6 44: +2 ' +3 3*4 '2*g 2*? +3 '/')'2*' (+3*'2*g =3 3 +3 9253 *2 '4* Y +2 ' 4: +3 2)'2*9 ' '*' +3 :7))' 3A 3* ' <';3*' 4' +3 *253 @(' +3 *2C ';39 4: +3 63*'*97)2

+3 3)29<'2*' '@39 4*' +3 /429 ' 29 5'<+ ' +2J3 @33*' 3A63/ 3? ' 2 3 4: 3*' 53* '4*3?' @(' +3 33E9C @7 ' +3' ' 643 g 2*?' <3*32)4<3 g +2?' 93)?45' 4//29'4*' 4' 9632E' 4: +3 '* 3 '4 ' 3;3 +3)399 ' 29 +3 3A'9 3*/3 4: 2 634C 6)3 2E'*' 4' +3 33Eg +29 @33*' 29/3 2'*3?' : 45' +3 *2539 4: 6)2/39 4*' +3 /429 ' 4: +3)4=3 ' 932' *32 ' +3 ' '9' '*')'E3 52**3 ' =3 2 3)3?' @(' 9'5')2 ' 2/39 '*' +3 '* 3 '4 ' 4' /4*/)7?3 ' +2 ' +3 3 ' 4 (' @3 =33*' +3 =4 9329 +2?' 2)94' @33*' '*+2@' 3?' @(' +3 9253 *2 '4*' 7* ')' +3(' =3 3 4;3 64=3 3?' 4 ' ? ';3*' 47 ' @(' +3 :4 3'*' '@39 4: +3 6'/2*g 2*?' 2@3))'2*9 ' 7/+' 2/39 2 3 :75 '9+ ' @(' +3 *2539 4: /+3 4* '2 ' 3)39'2 ' <('662' '64*B 75 ' 2)3;3* 75 ' 753* 75!Z $ 2*?' +3 =+4)3 /47*C (' 4;3 ' =+'/+' +393 6)2/39 2 3 9/2 3 3?' : 45' 932' 4' 932' 579 ' +2;3 @33*' /2))3?' 2)'2' @(' +3 *2 ';39

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Y' 8' ',1' -02',' 06' '"!*' "8:' (!*/ ',1' C.11D' 8"41-' 06' ',1' ', .:' :1(!18- 08' 8' 0.' "8:' 02./A' 06' ',1' 4"-(2! 81' 718 :1./ +1.1' 2-2"!!*' (,"871:' 8' "' 8' 8'0' 812'1.-' 06' ',1' -1(08:' :1(!18- 08' 8' ' 60.41:' 6.04' ',1' 718 ' @1 ' , -' 60.4' -' -" :' '0' ,"@1')1!0871:' '0' ',1' '0! "8' : "!1('3 08!*' ,1.1' ',1' '1.4 8"' 08' +"-' - ' "8:' ',1.160.1

3))2*'/79 =3 579 9766493 E*3= 4: *4 4 +3 3)29<'2*9 4* +3 ? '2 '/ +2* +493 4: 6'*2$ 4 +3 =47)? *3;3 +2;3 @ 47<+ +35 '* 4 '9/2*(' @(' 94 /' C /7' 479 2 42?' 7 '* 2//47* 9 4: +3 +'<+39 27 +4C ' (' =3 533 =' + 3)29<'2*9 2)4*< +3 =+4)3 /429 : 45 +3 3 *79 4 +3 4 '/3*75 2//4 ?'*< 4 2?'C '4* +2? @33* '* +3' +2*?9 @3:4 3 ' =29 4//76'3? @(' +3 2@3))'2* /4)4*('JL\')'*(' 9 2 39 ?47@)399 4* +3 27 +4 ' (' 4: 2 4 +2 @3:4 3 +3 '53 4: +3 5C @ '2*9 +3 '/7)'2*9 +2? @33* 529 3 9 4: +3 /429 4* =+'/+ +3 3*4*39B93)3?' '* +3 :': + /3* 7 (' 4: 453 Y =+3 3 2;3**2 =+'/)" '9 /2))3? 2 +3992)'2* /' (' . 9 44? Y'2*? +2 +3(' +2?)'E3='93 649939 +3 ?'9 '/ 9 4: 5 7 '75 2)52 2*? ? '2 579 +2;3 @33* +'9 2? '2 6 4@2@)(' 2*? *4 +3 ;3 (' 3/3* /4)4*(' :47*?3? @(' #'4*(9'79 +2 =29 /)29 @(' 4<79 254*< +3 4=*9 4: 33E 4 '<'* '* 2)(I . *' 9 *3'<+@47 C +44? 9 44? 76 2 /2))3? @(' 2@4 2 (+3*'2* /' (I .$ =+'/+ 579 2)94 3:3 *4 4 +3 79/2*9 @7 4 +3 2*/'3* (+3*'2*9 *' +3 /429 4: +3 2))'/ 62 4: '/3*5 *' =29 '927 75 +3 33E /4'*9 4: =+'/+ 9+3= +2 ' 9 '*+2@' 2* 9 =3 3 *4 5@ '2*9 4 2@3))'2*9 +3(' 6'2(' +2;3 @33* 2 33E 93)353 * : 45 */4*2$ 4 +3(' 52(' 2)94 +2;3 @33* (+3*'2*9 2*? '/7)'2*9 =+4 +2? 52'* 2'*3? +3' '*?363*?3*/3

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)2 3 ' 3;4)7 '4*9 '*' +3 ?39 '*'39 4:' 52*E'*?' 7/+' 2 54;353*' 4:' /47*)399 +49 9' 4:' =+'/+' *4 3/4))3/ '4*' =47)?' +2;3 352'*3?'@7' :4' 2*' '*/'?3* 2)' 53* '4*' 4:'' @(' 3 4?4 79' =' +47' 2*('*?'/2 '4*' 4:'' 9 ?2 3' =29 +3 3A63?' '4*' 4:' +3))('2*' */+3)32*9' =+4 9335' 4 +2;3 63*3 2 3?' '* 4 +3 +32 ' 4:' 33/3' 2*?' 3;3*' 4 +2;3 92/E' #3)6+" ' /4*/3';3 +2' +'9 579' 3:3' 4 2 5'< 2 '4*' 4:' +3 =+4)3))('2*' 6346)3 : 45' 354 3 *4 +C 3 *' 3<'4*9G 2*?' '*/)'*3 4 +'*E' +2' +3 32)'3' 3B)29<'2*' 6467)2 '4*' '*' #2)52 '2' =+'/+' =29 4;3 64=3 3?' @(' +35' =29 *4' R7' 3 3A 3 5'*2 3?' 3 32?' 4:' 3)2B <4*'2*9 4*' +'9 /429'.G 2*' 6' 4' 2/3 4:' +3 9253 *253 4//7 9 4*' +3 /4*:'*39 4:' 2/3?4*'2 2*?' +3992)(G 2*?' =+3*' =3 2 3 4)?' +2' +3 ())" =3 3 33E9 =+4 +2?'@33*' @2 @2 'H3?B:T' +3 3294*2@)3 6 39756 '4*' '9' +2' +3('=3 3 2 @ 2*/+' 4:' +3 3)29<'2*9' 2*?' *4' 4:' +3 354 3 3))3*9' =+4 ?'?' *4' @3/453 64=3 :7)' 2*?' *753 479 '))')2 3

3 4?4 79' =+493 9 2 353*' 29 4 +3 37/ '2*' 4 '<'*' 4:' +3 234*'2*9 4*' +3 (54*' '9 *4' 54 3 ;2<73 +2*' 4 +3 9 4:' +'9 4*' 9'5')2' 64'* 9' 579' /3 2'*)(' +2;3 /4*C /3';3?' +2' +3(' +2?' 352'*3?' @3+'*?' +3 3 ?7 '*<' +3 52 /+' 4:' +3 37/ '2*9 2*?' (9'2*9' 6 '4' 4 +3 4,2*' 2' =+3*' +393 *2 '4*9 4;3 2*' +3 /47* '39 ?4=*' 4 +3 4*'2*' 932II' +3('7*R739 '4*2@)(' =3 3 *3' +3' + 2/'2*9 *4'))('2*9$ 2*?' 94 +3 3 '9 *4 :25')(' =' +' =+'/+' =3 +2;3 @3 3' < 47*?9 :4' /4**3/ '*<' +393 23C 4*'2*9 4*' +3 (54*' +2*' =' +' +2' 4:' +3 2/3C ?4*'2*9 2*?' 4 '232*9' *' +3 4 +3' +2*?' ' ' '9 ?47@ C :7)' =+3 +3' +3)2 3' 33E9 =3 3 ,79 ':'3?' '*' /4*9'?3 C '*<' +3 2**4*'2*9 29 234*'2*9' ' +' 3<2 ?' 4 +'9

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64'* +4=3;3 52(' 352 E +2 +3 2**4*'2*9 579 +2;3 +2? 2 < 32 :2/')' (' :4 2/R7' '*< +3 2 '*)2*0 <72<3$ 9'*/3 7*?3 7<79 79 @7 2 9+4 '53 2: 3 +3(' @3/253 97@,3/ 4 453 ' =29 <3*3 2))(' ?'::793? 254*<9 +35Q?' * +3 9253 52**3 +3 2))2/+'2* 4*<73 2 493 '* 234*'2 2*? 7663 2/3?4*'2 2*? '* +3 3 '4 (' 4:' +3 6' 4 '@39 4* +3 @4 ?3 9 4:' +3992)('$ =+')3 +3)), '2*9 3 2'*3?! +3 /+(6'2* ='))' +3 3 /)493 5(' 2//47* 4:' +393 3932 /+39$:4 :33)' +2 +3 < 32 3 +3 3A 3* +3(' 299'<* 4 +3 3)29<'2*9 +3 54 3 9/ 76)39 ='))' +3(' 2'93 ='))' 393 ;3 +3 9 2 353* 9 +2;3 /4))3/ 3? /4*/3 *'*<)2B 6(<'2 4:' +3 9253 E'*?=' +' +493 +' +3 4 @ 47<+ :4 0 =2 ?' 7* ')' /453 4 9632E 4:' +2 /47* ('$ =+3 3 +3 37/3 '2*9)'E3 +g 3*4 '2*9 '* +3 947 +=39 =3 3 ?3 ';3? @(' +3 3/(?39 : 45 3)29<79 G +3 2?' '4*9 44 4:'))('2* '55'< 2 '4*9 9335 4 3:3 4 2 '@75'2* 6467)2 '4* 25' *4=' 9 2*?'*< 2 +3 <42)' : 45' =+'/+ 2 97 ;3(' 52(' @3 2E3*' 4:' +3 /' /)3 =!+3 3 +2;3 29/3 2'*3? +3 3A'9 3*/3 4:' 3)29<'2*' '@39' *4 29 ;20 < 2* <(69'39' @7 :' 5)(' 93)3?' 29 64=3 :7)' 3963/ 0 2@)3 *2 '4*9' '* 2 63 '4? :4 +3 549 62 6 '4 4 47 +'9 4 '/2) E*4=)3?<3 4:' 33/3 '9 *4 29 2 53 3 +(64 +39'9 @7 =' + 2 :7))' +'9 4 '/2) /4*;'/ '4* +2 2993 +3 3 =29 2 '53 =+3* +3 3)29<'2*9 +3* 63 0 +269 54 3 ='?3)(' 96 32? +2* 2*(' 4 +3 6346)3 '* 7 463 3A 3*?3? : 45 +3 4 2*? +3 54 2)549 4 +3 490 64 79 +3)'*3 4:' +3' 6499399'4*9 =29 @ 4E3* +4=3;3 '* + 2/3$ 94 +2 +3 /+2'* @3 =33* +3 (+3*'2*9 4:' 9'2 2*? +3 3)29<'2*9 4:' <49 =29 4*)(' E36 76 @(' +3 '9)39' '* +3 *4 + 4:' +3 <32*

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3) '/ '@39 '* 62'*$)'E3 547* 2'*B632E9 +2 4=3 29 '9)2*?9 =+3 3 :)44?9 +2;3 '**3? +3 6)2'*9 '* 4 2 932 'E3 +493 3) 9 +3(=3 3 /4*/3';3?J4 @3 *4 : 2<53* 9 4: 2 < 32 6346)3 @7 93)353* 9 :4 53?9 @(/4)4*'H'*< 4 35'< 2 '4* '* +3 9253 52**3 29 +493 4: +3 33E9 =+'/+)2(9'5')2)(?'963 9 +'9 @3'*< 4*/3 2997 53?9 29 /3 2'* Y 2*?* =+3* +3 ;29 4 <'*2) 52<*' 7?3 2*?9 3A 3* 4: +3 *2 '4* +2?9 @33* :4 <4 3* +'9 *4 '4* *2 7 2))(97<<39 3?9 ' 93): Y '' 93353?9 4 +3 2 976649' '4* /4*9'9 3* =' + 2) +3 /' /759 2*/39 2*?9 3C)2 '4*9 4: +3 /293 +2 +3 (+3*'2*9 2 4 4*2 9+47)?9 +2;3 /453 : 45 6'*2 2 +3 5 7 + 4: +3 4 +3 2//47* <';3* @(3))2*'/79 +4=3;3 +29 *4 +3 9)'<+ 39 +'9 4 '/2) ;2)73$ '4 54 3 94 +2* +3 :2@)39 2@47 +3 3A63?' '4*9 4: ?'* 2*?9 +3 9c : 45 +3 2*2'9 '* 4 /2*?'*2;'2

+3 3/(?39 +2?9 *4 +3 9253 < 47*?9 =+'/+ ,79 ':'3?9 3))2*'/79 '* +3 /293 4: +3 '*97)2 3?9 3)29<'2*9 2 6'*2 2*?9 4 4*2 :4 29975'*< +2 +3 3*4 '2*9 2*?9 37/3B '2*9 4 =+45 +3 9+47)?9 2)94 +2;3 2??3?9 +3 '/3)'2*9 '* '/')(=3 3 35'< 2* 9 45 3))29 '3 :2))2/(=+'/+ ?3)7?3?9 +'5 =29 +3 9253 =+'/+ '9 9 '))9 94B6 3;2)3* +2 2))9 +3 '@39 4: 2 /4554*9 4/E 579 +2;3 96 7*< @(3;3 B='?3*'*< 25':'/2 '4*9 : 45 2 9'*<)3 44 +'9 :2))2/(39/263?9 ?3 3/ '4* 254*< +3 2*/'3* 9 4='*< 63 C +269 4 +3' @3)'3;'*< +2 +3 3 =3 3 2 *75@3 4: 4 'C <'*2))(?'::3 3* 2/39 4: 53*)'3(=+4 ?3*(97/+ 2 6)7 2)' (2*?9 547* 76 4 2 9'*<)3 62' 4: 2*/39 4 9 579 ?3;'93 2 5' 2/)3 4 2//47* :4 +3 ?';3 9' '39 '* +3 @4?')(9 7/ 7 3 4: ?'::3 3* 2/39$ =+')3 +3(/)'*< 4 +2 4: +3 /4*:79'4* 4: 4*<739 29 2 94)7 '4* :4 +3 ?';3 9' '39 '* 97/+)2*<72<39 29 2 3 2?'/2))(2*?9 3993*C '2))(?'9 '*/ * +3 299756 '4* 4: 97/+ 5' 2/)39 +3 3 '9 *4 +'*< /4* 2 (4 3294* 9 +3 7'*9 4: 2 :4 53 =4)?9 52*':39)(9+3= +2 @3:4 3 +3 6 393* 4 ?3 4: +'*<9 2*4 +3 579 +2;3 3A'9 3?' ' '9 /3 2'*)(/4*C /3';2@)3 +2 +3 6 393* 4 ?3 9+47)?9 2 4*3 '53 +2;3

7*?3 <4*3' 2' 52 3 '2)' /+2*<3' 5 +47' @3'*<' 4 2))(' '* 3 C 76 3?' +3' 4::3*?3' 2<2'*9' 3294*' '9' +3' =+4' =47)?' ?'9 4 ' +u')2=9' 4:' 3A63 '3*/3' +2 ' 3<2 ?)399' 4:' 7 +' +3' 52(' 52'* 2'*' +3' /4*/3';2@)3*399' 4:' =+2' ?' 3/)(' /4* 2?'/ 9' +35' +2' 3294*' 3R7' 39' 79' 4' 2/E*4=C)3?<3' '9' +2' +3' 4 '<'*' 4:' +'*<9')'39' '*' 3;3'B(' /293' @3(4*?' +3' 96+3 3' 4:' 4* ' /4*/36 '4*9' =+'/+' /456 3+3*?' 4*)(' +3' ' ?3;3)4653*' 2*?' 6 4< 399$ 2*?' 2//4 ?'*<)(' +3' +'9 4 '/2)' '*R7' 3 ' 9+47)?' /4*:'*3' +'593):' 4' <4'*<' @2/EC =2 ?' : 45' 4*3' 9 36' 4:' '53' 4' 2*4 +3 ' *' ?4'*<' 94' +3' =')' : 3R73*)(' :'*?' '@39' 4:' +3' 9253' 9 4/E' +2 ' '9' +2;'*<' +3' 9253' 63/*)'2 ' '39' 4:' /+2 2/ 3 ' 2*?')2*<72<3' 4*' 46649' 3' /429 9' 4:' +3' 9253' 932$ 29' :4 ' '*9 2*/3' +3' 3)29<'2*9' '*' 33/3' '*' 6' 79' 2*?' '*' +3' 947 +' 4:' 2)(' &3 ' +'9' *4' =2(' ,79 ':'39' +'5' '*' 29975'*<' +2 ' 4*3' 4:' +393' 3<'4*9' =29' +3' 4 '<'*2)' +453' : 45' =+'/+' 2' 62 ' 4:' +3' '*+2@' 2* 9' 35'< 2 3?' 4' +3' 4 +3 ' *')'E3' 52*C *3 ' =3' :'*?' +3' @3 '2*9' 4*' +3' '9)2*?9' 4:' +3' 3?' 3 C 2*32*' +3' 3) 9' '*' 27)' 2*?' '*' ' 2'*' +'9' '9' 2*2C)4<479' 4' +3' <34< 26+(' 4:' +3' 2*'52)' 2*?' ;3<3 2@)3' E'*<C ?459$ +3' < 32' /' /)39' 4:' =+'/+' 2 3' 9362 2 3?' @(' 547*C 2'*9' @7 ' 3*/)493' *2 4=' 9329. I .

+3' :7 +3 ' =3')44E' @2/E' '* 4' 2* 'R7' (' +3' '/+3 ' +3' 54 3' ?'9 '*/ B2*?' +3' 54 3' @ 42?)(' 52 E ' ?4' =3' :'*?' +3' ?'2)3/ 9' 4:' < 32')2*<72<39' +3(' 97@9'9' 4*3' @39'?3' +3' 4 +3 ' =' +' +3' 9253' /+2 2/ 3 ' 4:' 4 '<'*2)' (' 2*?',79 ' 29' ':' +3(' =3 3' ?'::3 3*' 4*<739' +3' *4 '4*' +2 ' +3 3' =29' 2' 7*';3 92)' 3 52*' 4 ' 2' 7*';3 92)' 33E')2*<72<3' '*

' ,1' "2',0.' 06' '" .14".D')*' +, (,' 5.1I2: (1-' ".1' .. '"'1:/' 42-" 72".:' ' "7" 8-" 4 -(08-'.2(' 08-' ' "4' 6".' 6.04' 41"8 87' '0' "--1." ', "" ',0-1' 1;'18- @1' -1"'-' 06' ,1' H1!"-7 "8-' +1.1' ', 1 .' 0. 7 8"!' (028'.*' 6.04' ',1')17 88 87' 06' ',1' ,24"8' ."(1' 0+1@1.', 7,' +1' 4"*' 4028" '0+".:' ', "' 150(,/ ',1' "88"!-' 06' ',1' 7*5' "8-' "8:' "G)*!08 "8-' +02!:' 80" 6 !!' 25' 40.1' ', "8' "' -4"!!' 5"." 06' ',1' 8-(.2'")!1' 51. 0:' :2. 87' +, (,' 8"' 08-' 42-" ,"@1')118' 8' 80' !1--' "(' @1' (0!! - 08' ', "8' 8' "6'1.' ' 41-' ' "4' 08!*' 5.0'1-' 87' "7" 8-" (08(!2- 08-' :."+8' 6.04' "8' "--245' 08' +! (,' -' 2''1.!*' 7.028:!1--

4*s +3s :4 53 ' 29s :4 3'*3 9' 2*?s /2))s +3' ')2*<72<3s 2s @2 C @2 479s 4*3JI.

+3s 6346)3s =+45' +3s 33E9' 2*?' ' ' 52('s @3' +3('s 2)4*3' /2))3?s +3s 3*4 '2*9' ?=3)' '*' 7 ''7*' 2*?s 7/2*'2' %4 ' @3:4 3s +3s ' 76 '4*s 4:s +3s 2@3))'2*9' +3s =39' /429' 2)94s 29s :2' 29s 49'?4*'2s @3)4*<3?s 4s 3*48s '2I.C +3 3s)32s =29s :47*?3?s @('s +3s +4/232*9I.C 4::s +'9s /429' 44s)2('s +3s 3*4 '?s '9)2*?9.' 3s :'*?s 53* '4*s 4:s =4s ?'9 '*/' '@39s +3 3$ +3s 2)'3 39' '*s +3s 947 +3 549' 63*'*97)2$s +3s +4*'2*9s 4s +3s *4 +' 2@4;3s +3s '9 +579' 9 3 /+'*<' 76s 29s :2' 29s)26(<'2' +3s :4 53' 2 3s 92'?s 4s +2;3s @33*s 2s 629 4 2)s 2/3' 7* ')s +3('s =3 3s '*?7/3?')4*< @3:4 3s +3s 2<3s 4:s '*49' @('s 2)79' 2s 64=3 :7)' ='93' 2*?s +3 4'/s 6 '*/3' 62)('s @('s 63 9729'4*s 2*?s ,)2)('s @('s /4*9 2'* ' 4s 266)('s 4s 2< '/7) 7 3' 2*?s 4s 97@5'' 4s)2=9' 3'*<' +79s 547)?3?s '* 4J2s *3='s 6346)3' +3('s *253/:s +3593);39s 2*?s +3' ' 3 ' 4 ('s 2: 3' +'5' ('s +'9s)2=9s 8 ' =3 3s 39 2@)'9+ ' 4' 67@)'/s 532)9s :4' +3s 53*' 4s =+'/+s 32/+s :75'9+' +'9s 6 39/ '@3?s 9+2 3' +'9s /79 45' =' +s 9453s 4 +3')2=9s 29/ '@3?, 4s 2)79' =29s 6 393 ;3?s ?4=*s 4s 2s ;3 ('s)2 3s 63 '4?' 29s)4*<' 29s 2*('s 352'*9s 4:s +3s *2 '4*s =3 3s 4s @3s :47*?I.

. -'0'!1's -"*-s S 1'10.0!07' ' #/ ', "'s ',1's 1!!18-s +1.1's ("!!1:s ' ' +,18s ',1*s +1.1's 8,") ' 87s ',1's, 7,1-"s 4028'" 8 !"8:s 06s 5 .2-3s "8:s'', "'s 8"41/ +1's D80+/ +"-s 2-1:s,*s "!! 4"(,2-/"8:s)*s !1;"8:1.s',1's I '0 "8s ,1's-(,00!s '0' +, (,s',1-1s 501'-s)1!0871:/ +"-s 608:s 06s ,28' 87s 60.s ."."1s +0.:-s '0' ":0.8s ,1.s : ('08?s 8s "' 8s ,0+1@1.s',1s 8"41'06s J ' +"-s 80"s 450.'1:s 02"s 06s)00D-/)2"s +"-s 8s 2-1s 6.04s' ' 41s 44140. "!s '071', 1.s + ',s J Hs ',1s !"''1.s)1 87s 8s 1".!*s "71-s',1s 5.1@"!18"s 60.4s "s +"-s',1s (04408s 5."('(1s 8s 0!:s "' 8s 60.s 8"' 08-s '0s ,"@1s -1@1."!s 8"41-3s "s - 45!1s 081/ "8:s :1. @"' @1-s 6.04s '3 ! D1s J ' "8:s J ' . -'0'!1J-s "((028"s +"-s 5.0)")!*s :1. @1:s 6.04s',1s 5 .0"s 4 ' "8:s',1s 8"41s 42-"s ,"@1s)118s "s H1!"-7 ('081' 8s', -s +"*s "s ("41s '0s',1s 04"8-3s "8:s +1s ("8s 1"- !*s 28:1.-'"8:s ,0+s "8s '0! "8s ,"55181:' '0s 2-1s '

Ys 08*- 2-/ ' / (*482-s , 2-/@' /

0 ',4837 4 9- ' 2 ' ' # : * ' - ' -s ' ; 8 '

$8 -% ' 1.0:0'2-/ ' NBs A's H! 8*/ 'B

. -'0'!1/ H0! ''s @8 ' 3 08*- 2-/ ' 3)0',s 06s ',14

+3 9 4 ('* =+'/+ +3 2)'3 39 2 3 36 393* 3? 29 96)' '*< '* 4 =4 +49 ')3 '@39 +3 '/3)'2*9 2*? +3 4 <3 39 '9 *4 +'*< @7 2 5 (+'/2) =2(4: 3/4 ?'*< +2 +3 :4 53 =+4 =3 3 2 64=3 :7) 6346)3 '* +3' 4=* '9)2*? =3 3 ?39/3*?3? 2*? +2? 9362 2 3? : 45 +3 3*4 '2*9 J * 32)('539 +3 *253 4: +3 '/3)'2*9 29 +2;3 2) 32?(352 E . I I =29 3R7';2)3* 4 +2 4: +3 2)'2*9 /456 3+3*?3? +3 +4*'2*9 2)94 I+ 2*? +79 /4 3964*?3? 3* ' 3)(4 +2 4: +3 3*4 '2*9 2(': 3A 3*?3? 2/ 499 +3 4*'2* 932 254*<9 +3 6' 4 9$ =+3 3 /+3 79 =+4 7)3? 2 7/+3 2 I I '9 /2))3? E'*< 4: +3 '/3)'2*9 * +3 62992<39 4: +3 ?(9933 =+3 3 +'9 *253 4//7 9 ' 933 59 4 3:3 4 +3 6' 4 9 +79 =3 <3 2 94)7 '4* :4 +3 4 '<'* 4: +493 (+3*'2*9 =+4 5'< 2 3? 4 +3*9 '* +3 53* '4* 4: +3' +2;'*< 453 47 4: /2 *2*'2 4 +2 +3(+2? 92')3? : 45 +3 'C @3 2*? +2) 3? +3 3 +3(=3 3 3)29<'2*9 : 45 6' 79 +3 '53 36 393* 3? '* +3 /2 2)4<73 4: +3 33E 2 5(@3:4 3 4(+2 6346)3 =3 3 9 ') 529 3 9 4: +'9 /47* (=+'/+i)'E3 +396 4 '2 ?'? *4 (3 :4 5 62 4: 33/3

+2 +3 6' 4 9 2*? 3*4 '2*9 =3 3 @ 2*/+39 4: +3 9253 *2 '4* '9 2 :2/ 4: =+'/+ :7 +3 3;'?3*/m '9 9766)'3? @(+3 <34< 26+'/2) *2539 2*? +2 97 3 +2* 97/+ 2 <753* 9 2 3 7972))(* '9 4)309 2//47* 4: +3 3*4 '2*9 +3 32?'*< @3:4 3 =29 2) 3 3? @("'/B 4 '79 =29 *4 9 @7 9 : & 2*? =+2 3;3 52(

62!!0 @ 87 8' 0(,2- . -'0'!1 "::-/ '," ',1-1 !"+- +1.1 -' !! 8 60.(1 S\("! .'#/ +, (,-028:-'."871? " -(".(1!*50--)!1 '," ',1.1 -,02!:,"@1)118 "8* 1806. "8- 70@1.81:)* ',1 .'0+8!"+- 8 ',1 6 6',(18'2.*

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U " -0+ 87 -0!1!* '0 ',1 !1".8 87 06 141'. 2- ,"!(0(08:*

+2;3 @33* +3 J;2('2 =+'/+ +3 *253 4:B +2 3A '*/ 2/3 =G29 963) @(' '9 4)3 ' =29 2997 3?)(' +3 9253 4* @4 + /429 9 4: +3 4*'2* 93'7 4 8+3 4)499'2* E'*<)3A2*?3 :47*? 4 +'9 7'* +2 +3 3 =29 2 2*?49'2 2*? 2 ';3 ! /+3 4* '* 3*4 '2 29 =3)) 29 '* +39B 6 4 '2. >

+'9 2*?49'2 +2? @33* +3 932 4: +3 3*4 '2* E'*<9.0. +3 *253 4: ?'3 4=* 4: +4*3' '* +3 3 'C 4 (4: 4 4*20 l' '9 2 6 44: +2 +3 J;+4)3 4: 3*4 '2 4 +3 *4 + 4: +3 '9 +579 =29 '*/)7?3? '* +4*'2 4 +4*3l l 7 +3 3 =3 3 2)94 +4*'2*9 '* +3 ' '9 2*? 2 4 375 ';+45 +3)4'''2*9 =+3* ? ';3* : 45 4)46+4* @(+3 (?'2*9 :47*? +3 3$ 2*? =+45 @3'*< 63 +269 3*?3 3? :3 4/'479 @(' +3' 5'9:4 7*39 +3(' '*B +7*J*)(' 9)27<+ 3 3?[+3 2)/'*< 4: 4)46+4* /2* 4*)(' @3 ?2 3? 9453=+3 3 2@47 +3))(56'2? +3 (32 4: 453 k JJG 2*? +3 4*'2* /' (4: ' '9 =29 :47*?3? 944* 2: 3 +3 ?45'*'4* 4;3 ' 9 '/+ 6)2'*9 =29 :4 52*((32 9 +3 97@,3/ 4: 2 :37? @3 =33* 2 3* 75

!"-/ ', " +1 6 8: ', - 1418:"' 08 "8' (5"'1: 8 , - 4"82-(. 5' 8 '.")0 "!-0/ ; @ 5 N ' :/ <.1 ,8: 5< 8-'1": 06 =< 0. ><

> @*/ ' ' AA '.")0/ '5 N)

'.")0/ @ 5 ') >K C"-22)08 08 '.")0/ 5

K '.")0/ @ 5 --: ') (045".1: + ', ',180 2-/ ; ' 5 (' S+ ,1.1 -,02!:)1 8-1.'1: "6'1. $0L0i+ 'T#/ "8: '* ', . -'0'!1/ H0! '/ @

V 8 ', 1 .1 78 06 C*71-? +,0/ "((0.: 87 '0 1.0:0'2-/ -25G 50- 87 ', 1 : "'1 06 ', 1 6"!! 06 ".:1- '0)1 :1'1.4 8"'1/ .1 781: 6."4 ! ' '0 ' '? "((0.: 87 '0 2-1) 2-/ .04 ' ' '0 F , 1 !"'1.-'""1418 -114- '0 .1- 08 ', 1 "2', 0. '*'06 50!!0:0.2- 3 "- (08(!2:1/ "4087 0', 1 .1"-08-/ 6.04 6 8: 87 ', " 2-1) 2- -jZ1"D- 06 .(, !0(,2-/ ', 1 (08'1450.".* 06 C*71-/ 28:1.' , 1 !"-' 418' 081: !*45 ":/ +, !1 150-/ +,0 60!!0+1: 50!!0:0.2-/ 4 "D1- , 4 6!02. -, 8 '! 1 .1 78 06 2!!2- ! -' ! 2- S 1(C1!! 2-/ ;@ # ,1 5." -1)1-'0 *1:)* .(, !0(,2- 08 ', 1 . ' - S 8 ',184 -/ ; . 5 ` : # +"- 0(("- 081:)* ', 1 -2((1-- 06 ', 1 08 "8 -1''!1G 418'/)1*08: ', 1 .1"(, 06 ! 1)".)". "8 (08921.0.-

2*? (@2 '9 :4 +393 9 2 39 2 +3 +'<+ + 4: +3' 64=3 9 ')) E36 76 +3 +3 3?' 2 (+2 3? =+'/+ 6 3C ;2')3? @3 =33* +3 #4 '2*9 2*? /+c2*9 4 3A/)7?3 2 3* 75 : 45)'3 ' ' '9 +3 (@2 ' 39 6 4/7 3? +3 :47*?'*< 4: 3 264* 75 @47 +3 ?2 3 4: +'9 3;3* =3 +2;3 S*4 '*:4 52 '4* 3*/3 ' ' '9 4*)(@(/4*,3/ 7 3 @7 =' +47 '9E 4: <4'*< :2 = 4*< +2 =3 /2* 6)2/3 +3 =2 9 4: +3 3 264* '*39 2<2'*9 2 3* 75 2*? +3 3*4 ''2*9 4: +3 '* 3 '4 .0 2 +3 /)493 4: =+'/+ +3 :4 53 /3?3? 2 64 '4* 4: +3' ' 3 ' 4 (2@47 +3 5'??)3 4: +3 93/4*? /3* 7 (+2 '53 '*?363*C ?3* 3*4 '2*9 =3 3 9 ')) 4 @3 :47*? 7@93R73*)(+4=3;3 :2 +3)2 <3 62 4: +3 /47* (2: 3 =2 ? /2))3? 7/2*'2 579 +2;3 @33* 97@,3/ 4 (@2 '9 +3 9 2 353* '*?33? +2 9+3 +2? + 33 +7*? 3? +4792*? /' 'H3*9 '9 2)329 7*/3 2'*$ 2))'47<+ 976C 649'*< +2 *75@3 4 /456 '93 2)) =+4 +2? +3 '<+ 9 4: '9464)' (' '9 *4 4 @3 3,3/ 3? 29 '56499'@)3 $)'E3 +2 =+'/+ 299'<*9 +3 9253 *75@3 4 +3 2 5(9+3 93* 2<2'*9 +3 4 4*'2 9 +3 3 '9 *4 < 47*? +4=C 3;3 :4 3* 3 2'*'*< 2*(?47@ =' + 3<2 ? 4 +3 :47 2 '4*9 2*? :';3 2*? =3* (/' '39 92'? 4 +2;3 @33* 97@,3/ 4 +3 ['C 2*? +3 :47*?'*< 49'?4*'2 2*? 279 4* +3 4=3 32 9+3=9 +2 +3 ?45'*'4*9 32/+ : 45 /429 4 /429 $ +393 /4)4*'39 @3'*< 3;'?3*)(?3C 9'<*3? 4 6 4 3/ +3 : 4* '3 9 * +E3 52**3 4 4* :47*?3? 3 '*2 4* +3 9253 932 4/ :47*?3? '6B 64*'75 2*? 3?52 +'9 '9 +3 63 '4? 4 =+'/+ =3 579 3:3 +3 <3*3 2) @4*?2<3 4: +3 3)29<'2*90 Y +2 '9 4: +3 3*4 '2*9 '* +3 '5 53?'2 3 3 ' 4 (4: +3 /' '39 Y 7*?3 +3 ;2 '479 2)'/4B 33E 9 2 39 *4 7*?3 (@2'!'9 2)4*3C 2) +47<+ '* 93;3 2) ?'9 '/ 9 ' /3 C 2'*)( )29 3? 57/+)4*<3 2*(+4792*?9 +4=3;3 :2 3?

!0L1;0 *." % #? % '.")0/ @ 5 N " B '.")0/ @ 5 N))0@1/5 N "8: 8

@3 3 G :4 ;29 *75@3 =3 2?5' 3? 4 +3 '<+ 4:
/' 'H3*9+'6'\k\' +' ' +3 4*)(=2(4: 3A6)2'*'*< +4=
(@2 ' 2*? 4 4* /47)? +2;3 '*+2@' 2* 3*47<+ 4 :') 2
2*<3 4: =2))9 2 ;3 (952) 64 '4* 4: =+'/+ =47)? +2;3
97::'/3? :4 +3 ?39/3*?2* 4: +3 :' 9 93)3 9G 2*? 4:
+' 6)3@3'2* 6467)2 '4* +3 52'* 62 5 79 +2;3 @33*
2 ';39 4: +3 /47 (/+'3:)(3)29<'2*9
+3 +3 +3 =+4)3 4: +3 (@2 ' 3 3 ' 4 (:3)) 7*?3
+3 64=3 4: 4 4* ' *4 E*4=*$ *4 +4=)4*< +3
)2 3 52'* 2'*3? +3 6 3?45'*2*/3 9+3 +2? 2/R7' 3?
3 549 :)47 '9+'*< /4*?' '4* ?439 *4 9335 4 +2;3
)29 3?)4*<$ 2*? =+3* 9+3 44 +2? :2))3* : 45 +3 35'G
3/3 2 62 4: +3 97@,3/ 52(@2;3 3/4;3 3? +3'
: 33?45 +3* * '4/+79 +4=3;3 9 2 3? +2 2)(=29
@47*?3? @(+3 279 2*? 3 264* 75 '* \ +3 3*4B
'2* 4 +3 =39 4: +2)'*3 +2? 2) 32?(@33* 97@?73?
@(+3 7/2*'2*9G @7 +3(=3 3 *4 3A63))3? $ 2*? 94
+' /429 +47<+ *4)4*<3 2//47* 3? 2 62 4: 2)(=29
9 ')) /2))3? 3*4 '2IV +3 2<3 4: *2 '4*2) 5'< 2 '4*
=29 629 G +3 /4*R73 4 9 :47*? ' 54 3 6 4:' 2@)3 4
+2;3 '@7 2 (97@,3/ 9 +2* 4 @7(+3 ?9 4: 9)2;39G 2*?
+2 +3 52'* 62 4: +3 '*+2@' 2* '* 7/2*'2 ?'? *4
@3)4*< 4 +3 7)'*< 2@3))'2* 2/3 ' 6 4;3? @(+3
952) *75@3 4: +3 7/2*'2* '* +3 /3*979 2E3* '*
+3 '92)6'*3 =2 I 3 52(/4*,3/ 7 3 +2 * 'G
4/+79)'E3 '9 4)3 I ' 964E3 4: +3 +4*'2* 29 2* 3AC
'*/ 2/3 4 +4=3;3 +2 +3(+2? @33* 3A ' 62 3?
@(+3 '*+752*' (4: +3 7)'*< 33E /' '39 4* +3
=39 /429 4: +3 2 3* '*3 <7): +3 /2793 4: +3' ?'9C
26632 2*/3 =29 +2 +3(92*E '* 4 2 9 2 3 4: ;'))2*2<3

0:0.2-/ ; F

K - '.")0 1..08102-!* +0.:- '? F '(.0L6/ $"! M F 1$\ "L0..0Z. @ 5)

A)0@1/5 8

Y 6OO "8: ,0.-1? H0!*) 2-/

H0! '@8 $@ "# 8 # 2 -

='+47'3;3*':4 5'*<'*?363*?3*' 4=*9+'69' 2*?' 2?46 3?'
+3')2*<72<3' 2*?' +2@' 9' 4:' +3' 33E9.IJ6' 29' =29' +3'
/293' 7*?3' :2')399' 466 399';3' /' /759 2*/39' ='+' +3''
E'*953*' +3' '/3)'2*9' '*' '/')(I.' 2*?'='+' +3' 6' 4 9$'
=+45' 4)(@'79' 2//47* 9' 254*<' +3' 33E9' 2) +47<+' +3'
52E39' 2' ?'9 '*/ '4*' @3 =33*' +3' 33E9' 2*?' +3' =')?'
'@39' 4:' +3', 4)'2*' 547* 2'*9
+3' :2/')' (' ='+' =+'/+' +393' 3)29<'2*' '@39' =3 3'
547)?3?' '* 4' 33E9' =29' 2' /+2 2/ 3 '9 '/' 4:' +3''2/3'
2*?' 2' 52'*' /2793' 4:' +3''?'994)7 '4*' 2*?' 3A '*/ '4*''
'9' *2 7 2)' 4')44E' 764*' +'9' 29' 397) '*<': 45' +3' 4 '<'*2)'
2::'*' (' @3 =33*' +3' =4' 2/39' =+'/+' *3;3 +3)399' =3 3'
3993* '2))(' ?'::3 3* $ 2*?' 94' ' @3)'3;3' ''?'?' 3' 52('
4@93 ;3' +4=3;3' +2' +3' 33E')2*<72<3' 2*?' *2 '4*2)'
/+2 2/ 3' 4: 3*' 3A3 /'93?' 2' 52<'/2)' 64=3' 4;3' :4 3'*'
2/39' +2' /253' '*' /4* 2/' ='+' +35' 3;3*' =+3 3' +3 3'
/2*' +2;3' @33*' *4' 97/+' 2::'*' (' +3''*+2@' 2* 9' 4:' 9'2'
'*4' @3<2*' 4' @3' +3))3*'H3?' : 45' +3' '53' 4:' +3' 2C
/3?4*'2*' /4*R739' +47<+';3 (' :3=' <3*7'*3' 33E9' 93 C
)3?' 254*<9' +35' * '4/+' +47<+' +3' /4554*' 6346)3'
964E3' 2' @2 @2 479')2*<72<3' @3/253' 2) 4<3 +3' 2' 33E'
/' ($' 2*?' +3' 3*' 3' 2*9:4 52'4*' 4:' +3' ('2*9' =29'
2;3 3?' 4*)(' @(' +3''3* 2)' '*:)3A'@')' (' 2(' +3'
)@2*'2*9' =+4' +2;3'93)3?' 29' /4)4*'39' '*' 54?35' 33/3'
+2;3' 2?46 3?' +3' 452'/')2*<72<3' @(' +3' 9'?3' 4:' +3''
=*' 2*?' '*' 93;3 2)' 6)2/39' +2;3' :4 <4 3*' +3')2 3' *'
+'9' =2(' 2)4*3' =3 3' +3' '554 2)' 7)'4 39' 33E9$' 2*?'
3;3*' +3' *4@)3' (? '4 39' =+493' ?39 7/ '4*' =3' 9+2)'
63 +269' +2;3' 4' ?36)4 3' @3:4 3' +3' 67@)'/2 '4*' 4:' +'9'
"4)753' 2 3')@2*'2*' 93)3 9
+3' < 4= +' 4:' +'√ *753 479' 33E' 6467)2 '4*' '*'
3*4 '2' 2::4 ?9' 2' ,79 ':'/2 '4*' :4' +3' *253' 4:' 2<*2'
23/'2' +2' +3' /+2*<3' =29' /456)3 3' '9' 6 4;3?' @('
+3' :2/' +2' +3' 7 '2*9' 964E3' 33E' +47<+' +3

H"8:0- "/'! 1' "8(18" .1- :18(1' 06' ',1' 180'. "8' D 87-/ -'
("!!1:' "' C.11D' ('*' 8' ',1' ' 41' 06' H, ! 5' ? (*!";/ 5'
Y' 0:0.2-/ ' N

9/2*')2*<72<3' +2?' 2)94' @33*' '* 4?7/3?. ' +3' 452*9'
)44E ' 764*' +35' 94' 57/+' '*' +3')'<+ ' 4:' :4 3'*3 9' +2 '
+3' ' :'<+ '*<' 53*')'E3' +493' 4:' +3' 33E' /' '39 ' 2 3'
45' 3?' '*' +3' 3*753 2 '4*' 4:' +3' 2)'2*' :4 /39' :4 ' +3'
'92)6'*3' =2 ' 2)2@ '2 ')'E3' '/')(' /4* '*73?' 4' @3' 2'
33E' /47* (' +47<+' +3' 452*9' 6)2* 3?' /4)4*'39' 4*'
+3' /429 9' +3' 33E')2*<72<3' ?'?' *4 ' @3<'*' 4' <';3'
=2(' +3 3' ')' +3' :47 33* +' /3* 7 (6 ' ' '9' E*4=*' 4' +2;3'
6 3;2')3?' *4 ' + 33' +7*? 3?' (32 9' 9'*/3' 2 ' 4992*4' 2*?'
*4' ?47@ ' 57/+' 54 3' 3A 3*9';3)($' :4 ' 47 ' E*4=)3?<3' 4:'
+3' :2/ ' 29' 4' +2 ')')3' 4=*' '9' 53 3)(' 2//'?3* 2) ' 2('
2 ' +'9' ?2(' +3 3' '9' 2' 6467)2 '4*' +2 ' 9632E9' 33E' 3C
52'*'*<' '*' +3' *3'<+@47 +44?' 4:' 4/ "0hm

' +3' '53' 4:' +3' 3)464**39'2*' =2 ' +3 3' =3 3'
'/3)'2*9' 9 '))' 3A'9 '*<' '*' +3' 947 +3 549 ' 62 9' 4:' 2)(I0 6
2*?' +3(' 579 ' +2;3' :4 53?' ?'9 '*/ ' /4557*' '39' 3;3*'
+47<+' +3(' 52(' +2;3' @33*' ?363*?3* ' 4*' 54 3' 64=3 :7)'
9 2 39$ 9'*/3' +3(' 9 ')' 6 393 ;3?' +3' ' ' 2*?' 4 +3 '
+3 3?' 2 (' '*9 ' 7 '4*9 I I ' ' 3:3 ' +'9' 9 2 353*' 4' +3'
'53' 4:' * '4/+79 6' *'*3 (' (32 9')2 3 ' =+3*' '9 4)3'
= 4 3' ' 9335 9' R7' 3' 47 ' 4:' +3' R739 '4*' ' ' 9' 73'
9453' =3* (' (32 9' @3:4 3' +3' 947 +3 *' +2):' 4:' 7/2*'2'
=+'/+' '*' +493' ?2(9' 3A 3*?3?' 4' +3<'75 I I ' +2?' 93620
2 3?' ' 93):' 2*?' :4 53?' 2*' '*?363*?3* ' 6346)3' 8 2*?' +3

A' 11' 80'1'

6' ', -' 6"('/ +, (,' -' -'"'1:' :02)'62!!*' 8' -1@1."!')00D-' 06'
'."@1!-/ ' ,"@1')118' "--2.1:')*', 1' 1"50! '"8' 4 8 -'1./ 028' "k2.!0H
+,0-1' !1".8 87' 5.1(!2:1-' ', 1' 50--) ! '*' 06', -', ". 87' (086028:1:' ', 1'
8"' @1-' + ',' ', 1' !)"8 "8' (0!08 1-' ' "4' 7!":' '0' -1 _1' ', -' 0550.'2G
8 '*' 06' ": 0.8 87' 4*' "((028' 06' ', 1' 8"' 08-')1!087 87' '0' ', 1' 70!: 18'
"71' 06' '"!*/ + ',' ', 1' 8"41' 06' "' 4"8/ +,04' ', 1' -,": 1-' 06' ', 1' "8G
(18' "48 '1-' +02!:' .1I0 (1' 8' "-' ', 1 .' +0.', *' :1-(18:"8'/ ', 1' !"-'
-2.@ @1.' 06' ', "' 8'1!!1('2"!' 5. 41' 06' "5!1-/ +, (,/ "6'1.')!004 87'
60.' "' (18'2.*/ +"-' 1;' 872 -,' 8')!00:' 8' BFF' "*', 1' "((15' ', -'
"(D80+!1:71418' 06' 4*' @181."' 08a

' ,2(*: :1-/ @ ' ' Y' . -'0'!1/ H0! ' ' @ '
, -' 1;'18' -' "-(.)1:' '0' ')*' (*!";

*253‘ 4:‘ 3;4) 3?‘ 9)2;39‘ . I‘ =+'/+‘ +3‘ '*97 <3* 9‘ 2//36 3?‘ 29‘ 2‘ 3 5‘ 4:‘ ?3:'2*/3‘ 27 +4 'H39‘ 79‘ '*‘ 3,3/ '*<‘ +3‘ 9'))(‘ 2)3‘ +2‘ +3(‘ =3 3‘ 7/2*'2*‘ (47 +9‘ =+4‘ +2?‘ @33*‘ 3AC 2963 2 3?‘ @(‘ +2 ?‘ 32 53* ‘ 2*?‘ '*‘)44E'*<‘ :4‘ +3' ‘ 4 '<'*‘ 4‘ +3‘ 2*/'3* ‘ 93 :3$‘ '*‘ 976649'*<‘ +2‘ +3‘ 35C *2* 9‘ 4:‘ +3‘ 3*4 '2*‘ 6467)2 '4* ‘ @3'*<‘ 9 3*< +3*3?‘ J ‘ 2*‘ 2//399'4*‘ 4:‘ 9/2*‘ : 33@44 3 9‘ 2: 3 ‘ +3‘ 64=3 ‘ 4:‘ +3‘ 33E‘ /' '39‘ +2?‘ @33*‘ @ 4E3*‘ @(‘ +3‘ 7/2*'2*9‘ +2?‘ 3/4;3 3?‘ +3' ‘ : 33?45 ‘ 7 ‘ +'9‘ =29‘ 2‘ *3=‘ 364/+6 +3‘ 7 '2*9‘ 2 493‘ 29‘ 2‘ *3=‘ 6346,3‘ 2*?‘ =3 3‘)')3‘)'E3)(‘ 4‘ 3 2')J‘ 2*(‘ 6 '5' ';3‘ '*9 ' 7 '4*9

+3*‘ +3‘ 452*‘ 2 59‘ 32/+ ‘ +393‘ 62 9‘ +3 3‘ =29‘ *4‘ 6346)3‘ '*‘ 2<*2‘ 93/'2‘ 3A/36 ‘ +3‘ 7/2*'2*9‘ 7 C '2*9‘ 2*?‘ 33E9‘ +3‘ 3*4 '2*9‘ =3 3‘ E*4=*‘ 94)3)(‘ 4‘ +3‘)32 *3?‘ 2*?‘ '*‘ +3‘ = ' '*<9‘ 4:‘ +3‘ 2)'2*‘ 33E9

>-0 .2'' "8-? '.")0/@ ‘ 5‘ ‘)‘ 0:08 -/ ;@ ‘

mX

& '

/47* (' @3 =33*' 3*4 '2' 2*?' (+3*'2' =29'
/2))3?' 6'/2' 4 ' 794*'2' @(' @3' 33E9' '9 4)3' 92(9C
@4 ?3 '*<' 4*' @3' 3*4 '2*9' 4=2 ?' (+3*'2' ?=3) '
+3' 6'/2*9' :4 53)(' 2*?' 4' +'9' ?2(' E*4=*' @(' +3' 2?C
?' '4*2)' *253' 4:' 794*'2*9' 3' ?439' *4 ' /4*:'*3' +3' '
/47* (' 4' 2562*'2$' :4 ' +3' 3 59' 2 '75' 2' ?'9 '/ ' 4:'
6'/2'\ ' 752' '*' 6'/2' =29' ?'9 '*<7'9+ ' @(' +2 ' 2?,7*/ '
: 45' +3' 4*3' '*' '4)'9 ' 4)2' =29' /2))3?' 2*' 794*'2*' /' ('
@(' 3/2 2379'\.C @(' 4 +3 9' ' ' =47)?' @3' /2))3?' 2*' 6'/2*'
4*3 ' +3' 947 +B329 ' @47*?2'(' 52(' @3' 3<2 ?3?' 29' '*C
?3 3 5'*2 3 ' 2*?' 52(' +2;3' @33*' 3*)2 <3?' =' +' +3' /4*C
R739 9' 4:' +3' 25*' 39' '*' 3*4 '2 ' +3 3' '9' 2)94' 2*'
'*?3 3 5'*2 3*399' '*' +3' 452*' 2//47* ' +2 ' 794*'2'
=29' 4*/3' +3' *253' 4:' +3' /47* (' @3 =33*' +3' 63**'*39'
2*?' +3')4=3 ' 932'\.' 2@409' 9 2 353* ' +2 ' 35392 '
=+'/+')2(' 94' :2 ' 4' +3' 947 +' 2*?' : 45' =+'/+' +3' 33E9'
4:' +3' 453 '/' 2<3' ? 3=' +3' ' /4663 I . ' =29' :47*?3?' @('
+3' 794*'2*9'\-' 9335 9' 4' 39 ' 94)3)(' 4*' 2' 5'97*?3 9 2*?C
'*<' 4:' +3' =4 ?' 793?' @(' 2*')3A2*? '2*' 643 IJ
+3' *4 '4*' +2 ' '9 4)3' 9632E9' 4:' +3' 3 ' 4 ('
4//76'3?' @(' +3' 794*'2*9' '*' +3' 32)'39 ' '539' 29' 3AC
3*?'*<' ?4=*' 4' +3' ')2 79 ' '9' 2*' 3 47 ' :47*?3?' 4*'
2*' '*2//7 2/(' 4:' 3A6 399'4* ' :' =3' /2 (' 2')'*3' 2)4*<

H0! ' '

Y' J L:6'X' A ,' @,B ' %& ' ',% ' %$ ' 8 ' 9 @ C*' <' '
- ' % ' - ' # " ' ' " -) -% ' ' -' .*' +55 # <U' %% 9 2 '
' 08*- 2-/ ' B
Y' '15,"82-' *_'@' <L"' LL' 1-'' 5 ''@' 2-08 "4
Y' :*--11/ ' ' '.")0/ '5 ' (
+' 11' ")0@1/ 5 ' 8 ' F

547* 2 <2*79 2*? +3 '?<3 4: +'))9 =+'/+ :4 59 +3 *4 +3 * @4 ?3 4 +3 ;2))3(4: 3*3;3* 75 2*? 6 4C)4*< ' ! 4 +3 "7) 7 *79 @3 =!33* 3)39'2 2*?))':23 +3 =+4)3 /429 2*? /47* (4 +3 947 + 4: +'9)'*3 @3)4*<3? 4 +3 (+3*'2*9 2*? 2)'2*9)4*< 2: 3 +3 39 2@)'9+53* 4: +3 33E 93)353* 9 '* 2)(3*/3 +3 3 ' 4 (4: +3 6'/2*9 /4* /7*3? 4*)(+3 *4 +3 * ?'9 '/ 9 4: 25*'75.!BIG 2*? 2 2?' '4* =29 6 393 ;3? +2 +3)2*? 2@47 2)39 2*? 3*3;3* 75 =29 +3 :' 9 /47* (/2))3? 794*'2JI

'9 4)3 3))9 79 +2 - =29 +3 <3*3 2) *253 4: +3 *2 '4* ' .:/+3 62 '/7)2 *253 :4 2 @ 2*/+ 4: '.II * +'9 62992<3 2<2'* +3 7*R739 '4*2@)(+2? * '4/+79 @3:4 3 +'5G =+'/+ 3A6)2'*9 '* =+2 93*93 =3 2 3 4 7*?3 9 2*? +3 9 2 353* R74 3? @('!2@4 : 45 +3)2 3 +2 +3 794*'2*9 2*? 6'/2*9 =3 3 +3 9253 6346)3< '9 2 :'BR73* 947 /3 4: +3 549 63 C 6)3A'*< /4*:79'4* =' + 3<2 ? 4 +3 2<39 4:)3<3*?2 (+'9 4 (+2 52*(*2 '4*9 '* 32)('539 /4*9'9 3? 4: 93;3 2 '@39 =+'/+ 2 3 9453 '539 964E3* 4: 7*?3 +3' 4=* *253 9453 '539 7*?3 +3 /4554* 4*3 +79 =+3* 4*3 9 4 (2)E 4: 3)29<'2*9 2*4 +3 4: '/3)'2*9 4 (*+3*'2*9 29 +3 '*+2@' 2* 9 4: 2 /47* (' =29 <3*3 2))(9766493? 3;3* 254*< +3 2*/'3* 9 +2 +393 =3 3 =!4 ?'9 '*/ 2/39 =+'/+ +2? ?=3) +3 3 3' +3 4<3 +3 4 97//399';3)(*)'E3 52**3 4)(@'79 9632E9 4: +3 6'/2*9 2*? 794*'2*9 29 =4 ?'::3 3* *2 '4*9 '*+2@' '*< +3 /429 47*? +3 @2(4: 26)39.G :4 *4 4*3 '9 3*?4=3? =' + 3;3 (<': $ 2*? +2 +'9 4 '2* =+4

'.")0/ @ 5 "-0)

AA 1-' 5 ' @ 2-08 "4 0!218'24 ,0+1@1./ ,"@ 87 0. 7 G 8"!!*)118 "8 '"! "8 '0+8/ 42-)1 .17". :1: "- (08921-'

" - %$ &%%- - S(L I:1@ 6./ H0! ' @8

 5 " *D# D E 3S<58@ % $) #!+0 " % %#F G $0 " 8 &&

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'9 ' 3A/3))3* ' =' +' 3<2 ?' 4' +3' 63 '4?' '5 53?'2 3)(' @3C :4 3')79' ;'3=' '9' 4:' *4' 27 +4 ' (' 4*' 64'* 9' 4:' 6 '5' ';3' +'9 4 (' =+'/+' +3' 44E' *4' '* 3 39' '*' '*;39 '<2 '*<' *')'E3' 52**3 ' 2@4' ?'9 '*<7'9+39' +3' 794*'2*9' : 45' +3' 9/2*9' 52E'*<' +3' :4 53' +3' 32)'3' '*+2@' 2* 9' 4:' 2562*'2' +3')2 3' 2' '@3' +2' 4//76'3?' +3' /47* (' 2: 3' +35!JI.' ' = ' 3 ' =+45' +3' R74 39' =' +47' 53*C '4*'*<' +'9' *253' /2 '39' +3' 3 4*3479' 97@?';'9'4*' 9 '))' :7 +3 ' 9632E'*<' 4:' 6'/2*9' 794*'2*9' 2*?' 9/2*9' 29' +2;'*<' '*+2@' 3?' 2562*'2' '*' 97//399'4*$ +3*' +3' @ '*<9' '*' +3' 752*9' 2: 3' +35' +3' (+3*'2*9' 2*?' :'*2))(' 52E39' +393' 97@?73?' @(' +3' 25*' 39!.' +3' 9/2*9' 2@4' /4*9'?3 9' 29' 3A '*/ ' 2*?' /2))9' +3' '?'/'*39' 2' @ 2*/+' 4:' +35' I$ +79' 9335'*<' 4' 266)(' +2' *253' 94' :2' 29' +3' +29' 2*(' /)32' ;'3=' 4*' +3' 52 3' 4' +493' 794*'2*' '@39' =+4' /4* '*73?' 7*5'A' =' +' +3' 25C *' 39' 3' 52(' +2;3' @33*')3?' 4' ?4' +'9' : 45' :'*?'*<' +3' 25*' 39' 2*?' 4 +3' 2@3))'2*9' /2))3?' 6'/2*9' @(' 33E' 27 +4 9I' +'9' 2@)3' = ' 3' 52(' +2;3' +47<+' ' /4*;3C *'3*' 4' <3' '?' 4:' 2*' 25@'<7' (' @(' @4*B4='*<' +3' 2 '*' :4 5' <';'*<' ' 2' ?3:'*' 3' 532*'*<' 2*?' 2))4='*<' +3' 33E' :4 5' 4' 3 2'*' +2' =+'/+' +2?' / 36' '* 4' ' ' %4' 97 3)(' +3' /2*' 9/2 /3)(' +2;3' @33*' '<*4 2*' +2' =4 ' - ' 2*?' - ' 2;w' +3' 9253' *253' 29' '9' 3A6 399)(' 352 EK @(' 452*' < 2552 '2*9J' +3' :' 9' :4 5' =29' +3' 4*)(

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+3 ;3 ('53 =+3* +3 '9 9632E'*< 4: +3 2@'*3 2*? 9/2*')2*<72<39 29 /456)3 3)(?'9 '*/ B. I 3 '9 *4 2 =' *399 +4=3;3 : 45 =+493 =4 ?9 =3 /2*' @3 ,79 ':'3? '*' /4*/)7?'*< +2 +3 3 =29 *4 2::'*' (@3 =33*' +3 =4 .. +3 9/2*' =29 96 32?' 4;3 +3 =+4)3 947 +' 4: 2)(3;3*' ?4=*' '* 4 7 '75 2*?' 39926'2$ =+3 3 **'79 =+4 964E3 @4 +' 9/2*' 2*?' 33E 29 +'9J54 +3 4*<739 =29 @45 9 ?'2)3/ 9 579 +2;3 ?'::3 3?' <'(82)(G :4 @39'?3 +3 4)?' 794*'2*9 ' =29 964E3*' @(*2 '4*9 '* =+45 *4 4*)(+3 2@3))'2*9 @7 +3 3*4 '2*9 2)94 =3 3 < 2: 3?' 4*' +3 9/2*' 9 4/E 7/+' ?'2)3/ '/ ;2 '3C '39 579 @3 3A+'@' 3?' @(+3!'*9/ '6 '4*9 '*' +'9)2*C <72<3 =+'/+' +2;3 @33*' 6 393 ;3?' *' ;2 '479 62 9

+3 9/2*')2*<72<3 +4=3;3 '9 @(*4 532*9 2*' *3AC 6)'/2@)3 5 (9 3 ( )'E3 +3 59/2* 2?' 2' 9'*<)3 @44E '*' ' @33*' 6 393 ;3?' =3 9+47)?' @3 63 :3/)(2@)3 4 ?3/'6+3 ' 47 4: '93): : +3 '*9/ '6 '4*9 9453 52(@3 52?3 47 =4 ?' :4 =4 ?' 4 +3 9 '*' 62 2)329 =' +' /456)3 3 /3 2'* (2*?' =' +47 2*(;'4)3*/3 *' +35 =3 ?'9/4;3 +2 4 +3 3)353* =+'/+' '9 5'A 76 =' +' +3 33E' 62 4:' +3 2 '*')2*<72<3 6 2*?' +3 :4 59 2 3 97/+' 29 26632 '*' 2 '* =' +' +3)499 4:' 9453 4:' +3' 9())2@)39 2*?' 3 5'*2 '4*9 29 '9 =4* 4 +2663*' '*')2*C <72<39 =+3*' +3(' '* 3 5'A 2*?' < 4=' 4)?' 2552 '/2) :4 59 2*?' '*:)3A'4*9 2 3 2)94 /4554* =+'/+' '*' 2 '*' 26632 @7 2 3)(2*?' 29 3A/36 '4*9 '*/3 =3 2 3 2@)3 4 52E3 47 +'9)2*<72<3 ' '9 *4 =2(97 6 '9'*< +2 6)2(9 '*' ' =3 3 63 :3/)('* 3))'<'@)3 4 +3 452*9 *4 +'*< =29 =2* '*< @7 2')')3 6 2/ '/3 0 I

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' *4=' 3 7 *' 4' +3' 794*'2*9' =+45'4*' +3' 39 '54*(' 4:' * '4/+79' =3' 579' /4*9'?3' 29' 2' @ 2*/+' 4L' +3' 9/2*' *2 '4*' +3' ' *253' +29' 2' 947*?' R7' 3' :4 3'*' 4' 2)(' =+'/+' ' '2/R7' 3?' '*' +3' 547 +' 4:' +3' 33E9' +3' *2 ';3' :4 5' 579B +2;3' @33*' ' ' :4' +'9' '9' /)32)(' +3' +353' : 45' =+'/+' ' '' '9' ?3 ';3?G 2*?' =3' ?4' *4' *33?' +3' 46'*'4*' 4:'#'4*' 299'79' 2*?' 3 ;'79' 4' 39 2@)'9+' +2' +3' 794*'2*9' 2*?' 7 7*/'2*9' =3 3' 4*3' 6346)3'..' +3(' ?=3)' '*' +3' 9253' /47* (' '*' =+'/+' ';(' 3))9' 79' +2' +3')29' 794*'2*9' =3 3' ?39 4(3?' +3' ' 4=*' 4:' 2)39' =29' 2E3*' '*' X \$J' <*?' + 33' 4 +3 9' @3)4*<'*<' 4' +35' 4*' +3')4=3' ' '9' =3 3' 2H3?' '*' XX' '*' 2*' 7*G 6 4;4E3?' =2' 4:'3A 3 5'*2 '4*'.' +3' /2793' 4:'+'9' /2))'*<' +35' 794*'2*9' '*' +393' 62992<39' 2*?' *4' 7 7*/'2*9' 579' +2;3'@33*' +2' '*' +'9' 62 ' 4:'+'9' +'9 4 (' ' '9' 2)549' /3 2'*' +3' +2?' +3' @44E9' 4:'#'4*(9'79' @3:4 3' +'5$ 2*?' +3' /46'3?' : 45' +35' =' +47' /4*9'?3 2 '4*' 3*/3' 44' 2@47' +3' 9253' 63 '4?' =3' :'*?' +'5' 2)E'*<' 4:' +3' 39B' 926'2''9B¢B' =+3*' 2//4 ?'*<' 4' 2 '*' 792<3' +3' 9+47)?' +2;3' /2))3?' +35' +3' 2))3* '*39

54*<' +3' /' '39' 4:' +3' 7 7*/'2*9' =3' E*4=' 4:' 73992' =+'/+')2(' '*' +3' +32' 4:' +3' 3 ' 4 (' 4:' +493' 794*'2*9' 9' 4' +3' 53* '4*' =+'/+' =3' :'*?' 4:' +35')4*<' @3:4 3' 944*' 2: 3' +3' 3A67)9'4*' 4:' +3' 2 R7'*9' ' ' '9' /)32' +2' '*' +3' 4)?' 2**2)9' +3' "4)9/'2*9' =3 3' 2)94' /2))3?' 7 7*/'2*9' 2*?' +2' ' ' =29' 4*)(' +3')2 3' +'9 4C '2*9' =+4' 44E' +35':4' =4' ?'::3 3*' *2 '4*9

4" 8'0)I1("06''1'+0.D' "4'@1.*'7!":'0'60.70' ',1' 8'18'08' ')160.1'"88028(1:/'06'7@87'"'@1+'06',1' -("8'!"872"71'6.04'-'.14" 8-/-8(1'',"'-D',"-')118'28:1.'"D18')*'H.061--0.' !18_1

; -'; #'-11'80'1'

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,1'+".' 8'+,(,'H041'"'"8:' 0."'-2661.1:'-2(,'1..)!1' 528-,418'60.',1.'.1@0!'/-'0!:')*' @*'+(1'0@1.3'28:1.',1

+'9 2< 339 =' + =+2 =3 :'*7 '* /()2A =+4 35C @ 2/39 +3'*+2@' 2* 9 4: +3 0;+4)3 /429 :4 2 ?2(09 ,47 C * 3 (4 +3 947 + 4: ' /3'' +2 '9 29 :2 29 +3 "7)B 7579 =+3 3 '* +'9 4 (' =3 533 =' + "4)9/'2*9 794B *'2*9 2*7 7 7*3'2*9 7*?3 +3 *253 4: +3 :' 9 %4 +3 *253 - '* +3 3 '6)79.J '9 *4 3 47 G ' '9 > =' +47 +3 ?'<25 52G : 45 +'9 /253 ? =+'/+ =29 +3* /4* 2/ 3?' * 4 >) +3 > 4 > 2 6346)3 =+45 =3 4*)(':'*7 53* '4*3?' '* 4*3 6)2/3 2)4*< =' + +3 7/2*'2*9. I =3 3 6 4@2@)(' 2 @ 2*/+ 4: +3 9253 *2 '4*$ +2 '9 2*/'3* 6'/2*9 ? ';3* 947 +=2 7 @(' +3 2@3))'2* '5 5'< 2 '4* @7 =+4 +2? 52'* 2'*3? +3' '*C ?363*?3*/3 254*< +3 7/2*'2*9 +3' *253 '9 2 3C 52 E2@)3 '*9 2*/3 4: +3 2)549 3*?)399 ;2 '2 '4*9 4 =+'/+ +493 4: +3 2)'2*9 =3 3 97@,3/ +79 /253 +3 :4 5

*1". 06',1 2.28("8-/"8:06',1 0!-("8-28:1.',1*1". F <; ' 8 '.")0/@5 /8',1!-"06',1"8(18 8,") 'G "8'-06 "' 24/-"8 1..02.06',1(05 1.-60. 2",-

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' -'"51(2! ". '*06',1 "' 8 !"872"71/',"6.04',1- 4G 5!1 0. 7 8"! 8"41 06 "' 8"' 08/+, (,'06'18 -114-'0',"@1)118 081 + ','',1 8"41 06 '-:5;@*@ I./ :1. @"' @1-+1.1 60.41:/ "8:6.04 ',1-1 "7" 8 81+ 081-)* (0450-'08 0.(08'."(' 083 "!! +, (,' +1.1 2-1:+ ',02 "8*" ": ' 08"! 41"8 87 8',1-"41 -18-1 "-',1 - 45!1 081 ,1!"'1.-1!:04 (08' 821:(2..18'3 "8: 8',1("-1 06 80 081 5105!1 :0 +1 411 + ',"!!',1:1. @"' @1 60.4-?)2)* (0!!1(' 87',1:661.18 081-',"0((2./ +1 4"* 0)'" 8 (045!1'1 @1+ 06 ')1 ." "8"!07* ,1-45!1 60.4-+1.1 J, F), - , K L ,1 6.-(!"--06:1. @"' @1-18: 8'(<< A , -,0.'G 181: 8'0 * , , , 0. , "8: , , M , # , - , J X I 5'$0./ 5 , 8-'1":06 5 , /=F , %, , ! - , , =' , , , , N , - , , N , , "- '" 8"G ' 08"! 8"41/ 1 , , ='N , > , O , , < , O - , , , , , ,1 (045028: 86!1; 08- 18: 8 , , 4 J, , , F , , 1 , , - , , 5 , , . = L , (041- 6.04 L, ,) , , , , HP , 4 , 4P , , 4 , , , % , - - "" I1"- 2-1: "- "8 ":I1(' @1 ,1'1.4 8"' 08- , 8<</ , +1.1 (08'."('1: 8'0

> =+'/+ +3 33E9 44E 4 ?39'<*2 3 +3 "4)9/'2*9 2*? +2;3 *4 ?47@ +2 +3 2 4 3 53*C '4*3? @(' 3 4?4 79 29 4*3 4: +3 '@39 254*< =+'/+ +3 2 +2<'*'2*9)3;'3? 4469 4 2 2/E '/')(' '* +3 '53 4: 3)4* =3 3 +3 "4)9/'2*9 3/2 2379 '*?33? +2? /2))3? +3 3)'9(/" 2 '<7 '2* '@3 6 +'9 +4=3;3 /2* 4*)(' @3 2E3*' '* 2 ;3 (' ;2<73 93*93$ 29 9453 4: +3 33E9 #'4*(9'79 3))9 79 3/E4*3? +3 452*9 2*? +')'9 79 +3 '/3)'2*9 254*< +3 '<7 '2*9C :4 3 4?4 79 9632E9 4: +3 3)'9(/' 29 =3))' 29 4: +3 @3C '2*9 2*? 3) 9 2)4*<9'?3 4: +3 '<7 '2*9

+3)2*<72<3 4: +3 "4)9/'2*9 '9 964E3*' 4: 29 ?'9 '*/ : 45 +3 9/2*!J I$ +2 '9 : 45 +3 ?'2)3/ 94 /2))3? '* +3 ?'9 '/ 9 7*?3)'3 2@3))'2*9C 2*? +3)2*<72<3 4* +3 6)2 3 '* =+'/+ +3 *253 4: "3)' 23 9335 9 4 4//7 '9 ?'::3 3* : 45 +2 4*'4 +3 54*753* 9 7 +3 4 <'* 4: +2 6)2 3 '9 :2 44 7*/3 2'* :4 79 4 6 4*47*/3 649' ';3)(' +2 +3 '*9/ '6 '4* '9 "4)9/'2*

0. "8:' ,18 60!!0+1:' ,1 86!1; 08- 06' ,1 ', .:' :1(!18- 08? 6.04 N , ("41 N 6.04 O, , O, S',1 718 ' @1 5!2."!- N "8:' O, .1' 6028:' 08 (0 8- "8:' ',1 1!15,"8 +"- ("%1:' L O, *3 6.04 > , > SH!"2'2-/ . 824 #/ 6.04 3 ,-- , 3 ,-- 6.04 1 , 1 8' ,1 -"41 +"* (041- 6.04 , =+, (, - :1. @1: 6.04 "84 24/=! D1 - "8:'! D1 % L, 6.04 % L, , K , 8' ,1-1 ":I1(' @1- -' 81@1. "' : 4 82' @1 -*!!")!1/ 80 40.1 -0 8 5 , , ',"8 8 M , 6.04 M , , . ',"* -1(08:".* 41"8 87 +"- 80 "6! ;" '0 "' !!'!"'1 / 0+ "- 80 (,"871 +"- 4":1 8' ,1 8"41)*' ,1-1 '1.4 8"' 08-/ ',1 , 8 "' 24 4 7," "!-0)1 ("!!1: K 4 '" 60.4 +, (, .7 ! 42-" 28921-' 08 ",!* ,"@1 41" + ',/ "8:' +, (, ,1 4":1 2-1 06 + ', ',1 @1+ 06 .1-'. (' 87 ',1 0',1. 8"41 '0 ',1 -!"8:1.- 0 ',1 (!"-- 06 '1.4 G 8"' 08- 8)1!087- 8 & S 08*- 2-/ #3 "8:' 1@18 0 LL I@ 6.04 LL0. ,1 60.4 06 5.051. 8"41- 8 I. + ', ',1 718 ' @1 8 9@ 0. -"-(.)1:')* 1.0: "8 '0 ',1 "8(18 !"872"71 06 ',1 (2 ! "8-3 1DD1./ 81(:0' 5 F ? ', - +02!:' 7 @1 ."L I@.0*/ ! D1 - - 3 ,- - - $ @! N '15,"82- *_ @ & L".@;0 * ',1 (04 (' 501" ' 8 2-/ 920'1:')* 1-'2-/ @ -(24? -(1 1 0!-(1 6")2!"8'2.3 8"4 "' 81 81-(28'

4 ?3 '*<' 4*' +3' 7 7*/'2*9' 4:' 2)39' 2*?' @3)4*<'*<' 4' +3' 9253' 2/3' =3' :'*?' +3' '?'/'*39' 4:' 32*75' =+45' 2@4' 3A6 399)(' /2))9' 9/2*9.-h' 2*?' 9453=+2' :7 +3' +3' 2 '/7)'2*9' 4*' +3' "7) 7579' 4 +' *2539' 2 3' ?3C ';2 ';39' : 45' +3' 9'56)3' 4*39' @ ' 2*?' @ ' =+'/+' =+3*' =3' +79' 2/3' +35' @2/E' =3' 63 /3';3' 4' @3' /4<C *2 3' =4 ?9

' 452' +'9 4 (' +3' "4)9/'2*9' 2 3' 2)549' '*9362 2C @)3' : 45' +3' ' R7'2*9.I' =+4' 2 3' ?39/ '@3?' 29' 2' ;3 (' 2*/'3*' 6346)3' 4:' < 32' 64=3' 2*?' :4**'?2@)3' 3*3C 5'39' 4' 453!I' +3(' =3 3' 2' 2/3' 4:' 547* 2'*33 9' +2 ?3*3?' @(' +3' /+293' 52E'*<' : 3R73*' 6 3?2 4 ('*' 42?9' 4*' +3' ' *3'<+@47 9 +3*' +3' ' 64=3' =29' 2' ' 9' +'<+39' +3' ' 3 ' 4 ('3A 3*?3?' 29' :2' 29' 547*')<'?79' @3 =33*' 7937)75' "3)' 23' 2*?' +3' 4 ;*9' 4:' +3' 35'B' /2*9' 2*?' ?4=*' 4' +3' %7/'*3')2E3' +3' :4 399' 4*' +2')2E3' 2E3*' @(' +3' 452*9' '*' +3' (32' Xk' =+'/+' '9' /2))3?' 2' "4)9/'2*' 4*3!I' 579' 7*?47@ 3?)(' +2;3' @3C)4*<3?' 4' +3' ' R7'2*9' +3' %2)'9/2*9' 44' @(' 547*' 4 2/ 3' '*' =+493' *253' +2' 4:' +3' "4)9/'2*9' '9' /)32)(' ?'9/3 *'@)3' =3 3' ' R7'2*9!\' +3' 794*'2*9' +4=3;3' ?'?' *4' 52E3' 76' +3' =+4)3' 6467)2 '4*' 4:' %2)3 '" 2*?' ' 9' 97@,3/' 4=*9' ' =29' @(' +3' ?39/3*?2* 9' 4:' +3' 3)29B' <'2*9' +2' +3' =4 9+'6' 4:' +3' <';3' 7*4' =' +' +3' 63/7)'2' ' 39' =29' E36' 76' +3 3I I$ 2) +47<+' ' ' 52(

@' 5' B' (

' .7 !/ 81 :' @ ' B F' "' (2!2-' "-51.' 8', -'0.*' +1', 1".' 08!*' 06' ', 1 .' '0+8' "' (2!24

Y' ,1' :1. @"' @1' 60.4'" J, , ' "8:' J, , , ' ".1' 5.1-1.@1:' 8' ', 1' C.11D' ' "8:' ;L0.'? 06' J, , , ' +1' 6 8:' 8-'"8(1-' 8' "' 8' J, - , ' "-' "' 4"-(2! 81' 804 8"' @1/ -' "8' 1..08102-' 60.4/ "8:' 027,"'0')1' 1;52871:' 6.04' ', 1' : ('08". 1-'? 8' .7 !/ @8' B B/ J, , E' "7.11-' + ',' 0 ' 0' !1--' 1..08102-' -' ', 1' 60.4' J,

' @*/ ' B' (1.0' :1' 15' ' '? "78"'4' 718'14' 1" 61' .0(14' 1" .1)2-' 5052!' 04"8' 44 818'14

.7 !/ = ' @ ' B B B F' Y' @*/ @' B

1920-921' "! -(0-/ .7 !/ @ ' NF / "8:' 1.@ 2-

08*- 2-/ '

63 +26 +2;3 @33* 2?46 3? @(+3 /4*R73 4 9   =4 ?
@3)4*<'*< 4 +3 %2)'9/2* ?'2)3/   +29 @33* .6 393 ;3?$
2*? +' =4 ? =29 2)94 :47*? '* +3 25*' 3
* 97/+ =4 ?9 29 +3 9/2* +29 '* /45 54* =' + +3
2 '*   =3 4: 3* :'*?   97@9 ' 7 3? :4   29
2*? +3)'E3   3*/3 ' 52(@3 3<2 ?3? 29 /3 2'* +2
+3 *253 '   /4* 2'* +3 2?'/2 9())2@)3 4: +3 *2539
-   2*? 2//4 ?'*< 4 +3 2 '* =2(4:3A6 399'*<
'   %4   +3 67)'2*9 6 463)(94 /2))3? =3 3 6'/2*9
=+493 *253 2: 3   +3(/4*R73 3? +3 #27*'2*9 =29
J;3* 4 +3 /47* (+3(4//76'3?
: 3   +3 52**3 ?: 2)) *2 '4*2) 5'< 2 '4*9   +3
6'/2*9 '* +3 /47* (@3 =33* +3 '@3 2*? +3
? '2 '/ @3'*< +3593);39 6 39 :4 =2 ? @(+3 2@3)B
)'2*9   + 3= +3593);39 764* +3 2)'2*9 4* =+45
+ 47<+47   +'9 =+4)3 3A 3:'   +3(@4 ?3 3? 2*? 4;3 C
64=3 3? +35   2*(4: +393 97@5' 3?G 4 +3 9)3:
P +3' +45 39G 2*? +79 '* +3 4)?39   2?' '4*9 4: +3
2)'2* 33E9 ' =29 3)2 3? +2   +3 '/3)'2*9 =+4
/ 49 4;3 '* 4 '/')(+2? @33* ? ';3* :'B45 +3' 2@4?39
@(+3 6'/2*9 3 3 2<2'* +3 '/3)'2*9 2 3 +3
9253 6346)3 =' + +3 2)'2*9G 2*? ' =29 4*)(@3/2793
2 3/4))3/ '4* 4: +3 '/3)'2*9 29 ?=3))'*< 4* +3 '@3
+2? @33* 6 393 ;3? +2   +'9 5'< 2 '4* =29 29/ '@3? 4
+35   +'9 354 39 @ 2*/+ 4: +3*2 '4* '9 +3 ;3 ( )29
=+'/+ '9)'E3)(4 +2;3 2E3* 62 2)329 '* 2*(/4*C
9'?3 2@)3 *75@3 9' '* 97/+ 2* 3A63?' '4*   '9 54 3 6 4C
@2@)3 +2   +3 35'< 2* 9 /253 47 4: 2562*'2 =+'/+ '*
32)'3 ' 539 =29 7*R739 '4*2@)(6346)3? @(+3 3)29<'2*9
2*? 2: 3 =2 ? 94 3* ' 3)(@(+3 9/2*9 29 4 9+3= +2
+3 6 3;'479 6467)2 '4* 579 +2;3 R7' 3? +3' +4539
=29 2* 46'*'4* 7*';3 92))(3/3';3? '* +3 2<3 4:
7<79 79 +2   2562*'2 7* ') ' =29 /4*R73 3? @(+3
25*' 39 +2? @33* 97@,3/ 4 +3 79/2*9$ 2*? +2
2672 7*?3 +3 *253 4: " 7) 7 *75 =29 +3 32)'39

/' (' 2*?' 4)2' 4*3' :47*?3?' 9453=+2')2 3 ' '*' +'9' 947 +C 3 *' 7 ' 2 4 = ' ' +'*E' ' +2;3' 9+30;*' +2' +3' (C +3*'2*9' : 45' 7 3* 75' 4' +3' ')2 79' =3 3' /3 2'*)(' *4' 79/2*9C 2*?' +3 3' 2<2'*' ' ' 52(' +2;3' +2663*3?' +2' =+2 3;3' 9 2 353* 9' =3 3' :47*?' @(' 452*' = ' 3 9' '*' 3264)' 2*' 4' 752*' /+ 4*'/)39' 2@47' (+3*'2*9' =+4' +2?' 4:' (4 3' @33*' '*' 6499399'4*' 4:' 2562*'2' =3 3' 3C :3 3?' @(' +35' 4' +3' 79/2*9' ! '2' 2672' 29' =3))' 29' 453' 629' =' +' +3' 32)'3' 33E9' :4' 2' 3)29<4B (B' +3*'2*' /' (' 52(' @3' '*:3 3?' : 45' 36+2)4*' =+4' 53*C '4*3?' ' ' 4<3 +3' =' +' 453' 254*<' +3' /' '39' @7')' @(' +3' 4,2*9' +3' 9253' *4 '4*')'39' 2' +3' @4 45' 4:' +3' 2//47* 9' 4:' =+'/+' 2/39' 2 3' 6 393 ;3?' @(' +3' < 2552 '2*9' =+3*' +3(' 3))' 79' '*' 4*3' 6)2/3' +2' 2672' =29' :47*?3?' @(' 25679$' '*' 2*4 +3 ' +2' 2' 6 '*/3' 4:' +'9' *253' +2?' 7)3?' '*' 6' 79 Y 4;3' +3' +24*'2*9 Y 2*?' +2' 6' 79' +2?' 2)94' @4 *3' +3' *253' 4:' 2562*'2' 4 34;3' 2*' 353*?2 '4*' 29' 4' =+'/+' *4' ?47@' /2*' @3' 3* 3 2'*3?' 9766)'39' 79' =' +' 2*' 3A6 399' 39 '54*(' :4' 4)209' @3'*<' 4:' (+3*'2*' 4 '<'*' +3' 9 2 353*' 44' 4:' +3' 2*4*(5479' /+ 4*4)4<3 9' R74 3?' @(' "3))3'79' +2' 2672' 2*?' 4)2' =3 3' @7')' @(' +3' 79/2*9' 2@47' 3'<+' 2*?' :4 (' (32 9' @3:4 3' 453' /2*' 4*)(' @3' ?3:3*?3?' @(' '* 3 6 3 '*<' ' ' 4:' +3' (+3*'2*9' *?' *4 =' +9 2*?C '*<' +'9' 3A6 399' 3:3 3*/3' 4' 2 4' ' ' '9' ;3 (' ?47@ :7)

@*/' ' B' 1!!1 2-/' 'B' '.")0/';'5' ':

'*40!07' "78'@'$"6+.0.' 1.@ 2-/ 08' U8' 8' ' ,1' "45*! :-/',1',02-1'06'D 87' "452-/ 42-" "--2.1:!*',"@1')118',1' $ ' '"4087',1' ,"08 "8-/ 418' 081:' 8' ,2(*: :1-/ ' ' 8',1'! 81'06' .7 !',1'0!:' (04 418'"'0.-' +1.1'80' :02)". 7,' 8' 8G '1.5.1' 87' G ' G ' 80" ',1' G ℕ 0')2"',1' G ' G ' +"-' 80' 0@1. .16 81418"',"' :1'1.4 81:'',14' ' 04"8' +,0',":'@0*"71:'6.04' .28:2- 24' '0' C.11(1/ 42-',"@1'-118' ,"' 08'" + ',' '-' (.0(1."28 "/ "8:' (02!:'80' 40.1' +. '1' ")02" ,"08 "8' 5!" 8-/',"8' "8' 87! -,4 "8' ")02" !5-')1'+118' "!" -' "8:'H". -

,1''1;"06' 0! 82-/5' ' :/',"-' 0!"' ' ' ' '.1":/ + ',' 5- 2-/',027,' 8' "' : 661.18" -18-1/" ' ℍ' ' ' +, (,' "!4 "- 2-'5.050-1-/ -'(1.'" 8!*' +.087

=+3 +3 2 4 ?'? *4 52E3 2 ?'9 '*/ '4* @3 =33* +3 79/2*9 2*? +3 7</2*9 4)(@'79 +4=3"3 9632E9 '* 94 52*(=4 ?9 4: +3 79/2*9 29 J '3 64993994 9 4: +3 +)3< 932* 6)2'*9!J I 2*? 9+<+ 29 +'9 27 +4 ' ('9 '* 97/+ 52 3 9 =47)? *4 3,3/ 2* 46'*'4* =+'/+ +3 3A6 39939 94 649' ';3)(7* ') 3;3 (2 356 4 52'*C 2'* ' +29 @33* :47*? :7 ')3 2 40 9 2 353* Y =+'/+ <';39 97/+ 4::3*93 4 +2 '*<3*'479 @7 +29 (= ' 3 "3))3'79 Y +2 2672 +2? 3A'9 3? 4*)(m (32 9 @3:4 3 ' 9 2E'*< '* +3 93/4*? 7*'/ =2 2*? 2//4 ?'*<)(=29 :47*?3? 2@47 +3 (32 9335 9 4 2?5' 4: @3'*< =3))' 3/4*/')3? =' + =+2 =3 /2* /4))3/ 4: 79/2* +'9 4 (+3 < 32 *399 4: +3 79/2*9 @3)4*<9 4 +3 +' ? /3* 7 (4: 453 ?'96)2(9 ' 93): '* +3 =2 9 4: 4 93**2 2<2'*9 453 2*? '/'2$ '* +3 "3'3* '*3 =2 2: 3 +3 ?'929 3 4* +3 353 _ '* km G 2*? ' =29 2@47 +3 9253 '53 km k +2 752 =29 92;3? @('3 4 : 45 +3 79/2*: :)33 7 +3 97@,3/ '4* 4: 453 4 4 93**2 9335 9 4 +2;3 @33*' 4: @ '3: ?7 2 '4*G 2*? 944* 2: 3 +3 5'??)3 4: +3 +' ? /3* 7 (452* +'9 4 (@3/45 39 94 ?3 3 5'*2 3 +2 +3 6346)3 4* +3)3: @2*E 4: +3 '@3 /2**4 6499'@)(+2;3 @33*' '* 97/+ 2 9 2 3 4: Q?363*?3*/3 29 579 @3 6 39766493? @3:4 3 7 '2 /47)? 93*? 47 /4)4*'39 @3(4*? +3 "7) 7 *79 4 2 3 +3 3)399 ?'::'/7) '39 2<2'*9 +3' +2;'*< / 49 +3 932$ 9'*/3 +3 + 33 +2 @47 9 4* +3 +)3< H32* 6)2'*9 752 #'/232 /)''2 2*? 2 +3*463 +2? /4* 'C *73?' '*;2 '2@)('* +3 +2*?9 4: +3 +2)/'?'2* 33E9 &3 =' +47 6499399'*< 4*3 2)329 4: +393 +3 79C /2*9 3;3* ': +3(+2?)2*?3? 2 ' 3575 /47)? *3;3 +2;3 +47<+ 4: :4 5'*< 2 63 52*3* '93)353*

#'4*(9'79 +29 6 393 ;3? 2 3/4 ? 4: 2 9'3<3 +2 752 +2? 4 979 2'*: 45 2* 3*4 5479 +49 4: (+3*'2*9 : 45 +3 4*'2* 932 2)4*< =' + 5@ '2*9 #277'2*9 2*? 52*(4 +3 @2 @2 '2*9 +'9 =2 '9 *4 4 @3 3,3/ 3? 2*(

54 3‘ +2*‘ +3‘ 3A63?' '4*‘ 4:‘ 13 A39‘ 4*‘ 2//47* ‘ 4:‘ +3‘ :2@7)479‘ 3A2<<3 2 '4*‘ '*‘ +3‘ *75@3 9‘ +3‘ 6 4?'<(‘ 4:‘ +3‘ ';3 9‘ :)42 '*<‘ @2/E=2 7‘ '9‘ 53 3)(‘ 2‘ 6 44:‘ +2 ‘ +3‘ :32 :7)‘ 63 ')‘ + 47<+‘ =+'/+‘ +3‘ 752*9‘ =3 3‘ /2 '37‘ @(‘ +3‘ 2'7‘ 4:‘ +3‘ <4?9‘ =29‘ 2*95' 3?‘ '*‘ 94*<‘ + 47<+‘ +3‘ 547 +9‘ 4:‘ +3' ‘ /+')? 3*‘ 2*7‘ < 2*?/+')? 3* ‘ ;3*‘ +3‘ /+ 4*4)4<'/2)‘ 9 2 353* ‘ =+'/+‘ ?2 39‘ +'9‘ =2'() '*‘ +3‘ mX +‘)(56'2?‘ +2 ‘ '9‘ 2@47‘ ‘ 52(‘ @3‘ ?3353?‘ /4 3/ ‘ '*‘ +3‘ 52'* ‘ +47<+‘ ' ‘ 52(‘ <4‘ 2‘ :3=‘ (32 9‘ 44‘ :2 ‘ @2/E‘ *?337‘ ' ‘ =29‘ '56499'@)3‘ 4‘ 2?,79‘ +3‘ *2 ';3‘ /+ 4*4)4<'(/2)‘ 3<'9 3 9‘ =' +‘ 63 :3/ ‘ 2//7 2/(‘ 4‘ +3‘ (32 9‘ 4:‘ +3‘ +3*'2*‘ 2 /+4*9‘ *3‘ 5'<+ ‘ /4*/3';3‘ +2 ‘ +3‘ 93)3(53* ‘ 4:‘ +3‘ 79/2*9‘ 2 ‘ 2672‘ =29‘ /4* 3564 2*3479‘ =' +‘ +'9‘ 3A63?' '4*(‘ 2*‘ 32)'3 ‘ ?2 3‘ '9‘ '*/4562 '@)3‘ =' +‘ +2 ‘ 9 4 (‘ =+'/+‘ 36 393* 9‘ +3‘ 752*9‘ 29‘ '*‘ 649(9399'4*‘ 4:‘ +3‘ 2562*'2*‘ 6)2'*9.J0‘ ‘ @3)'3;3‘ 44‘ +2 ‘ +3 3‘ =29‘ 2‘ /4**3A'4*‘ @3 =33*‘ +393‘ 3;3* 9$ @7 ‘ +2 ‘ +3 3‘ 2<2'*‘ +3‘ (+3*'2*9‘ =3 3‘ *4 ‘ 79/2*9‘ +3‘ *2 '4*9‘ =+4‘ 2 3‘ 92'7‘ 4‘ +2;3‘ 52 /+ ‘ 2<2'*9‘ 752‘ 579‘ 7*R739 '4*2@)(‘ ' ‘ 93359‘ 4‘ 53‘ +2;3‘ @33*‘ +3‘ 2)'2*9‘ 2*7‘ 6'/2*9‘ + 79‘ :4 =2 7‘ @(‘ +3‘ 2?;2*/3‘ 4:‘ +3‘ 2B @3))'2*9‘ 2*7‘ 54;'*<‘ 4*=2 7‘ '*‘ 4*3‘ 5299‘ '*‘ =+'/+‘ +3‘ ? ';3 9‘ =3 3‘ 5'A ‘ 76‘ =' +‘ +3‘ :7<' ';39‘ 29‘ *‘ +3‘ < 32 ‘ 5'< 2 '4*‘ 4:‘ +3‘ 3 52*9‘ 2*7‘ 7*9‘ +'9‘ 26632 9‘ 4‘ @3‘ +3‘ 364/+‘ =+3*‘ +3‘ 6'/2*9‘ 93)3?‘ '*‘ +3‘ +)3< 232*‘ 6)2'*9(‘ 2*7‘ 2‘ *75@3 ‘ 4:‘ (32 9‘ 52(‘ +2;3‘ 3)269‘ 2: 3 ‘ +'9‘ @3:4 3‘ +3(‘ @3/253‘ 529 3 9‘ 4:‘ 2672$ 94‘ +2 ‘ +'9‘ /' (‘ 5'<+ ‘ ?2 3‘ +3 ‘ 4 '<'*‘ 2//4 ?'*<‘ 4‘ +3‘ 3 2‘ 53*('4*3?‘ @(‘ 2 4‘ +3‘ 9 2 353* ‘ +2 ‘ '*‘ +393‘ 62 9‘ 29‘ '*‘ 7 '2‘ +3 3‘ =3 3‘ =3);3‘ 79/2*‘ /' '39‘ 39 9‘ 94)3)(‘ 4*‘ 2@4$ =+4‘ ?3)';3 9‘ ' ‘ =' +47 ‘ /4*:'?3*/3.$ 2*7‘ ' ‘ '9‘ 3A 353)(‘ ?47@ :7)‘ 4 ‘ +3‘ 9)'<+ 39 ‘ 2/3‘ 4:‘ +3‘ 79(/2*9‘ '9‘ 4‘ @3‘ :47*7‘ '*‘ 2562*'2 ‘ '3‘)3 3 9‘ 5'<+ ‘ '*(?337‘ @3‘ ?3/36 ';3$ @7 ‘ 2))‘ +3‘ = ' 3*‘ 54*753* 9‘ =' +(47 ‘ 3A/36 '4*‘ 2 3‘ '*‘ 9/2* ‘ 4 ‘ 2 3‘ +3‘ =4 E9‘ 4:‘ 2 ‘)399‘ 7*)'E3‘ 2))‘ +493‘ 4:‘ +3‘ 79/2*9

4)2 '9 /2))3? 2 +2)/'?'2* /' (B0T 4@2@)(+3 (+3*'2*9 4 9 3*< '3* +3593);39 2?5' 3? 33E9 4 :3))4=B/' 'H3*9+'6$ 2*? +393 4)2*9 52'* 2'*3? +3' < 47*? 2<2'*9 +3 9/2*9 +3(=3 3 97@93R73*)(2 B 2/+ 4 +3 25*' 39 =+4 3;3 (=+3 3 26632 4*: '3*?)(3 59 =' + +3 33E9 4=' 3* ' 3)(+3 /';')'H2 '4* 4: 33/3 +2? @33*' 2?46 3? @(4)2 '9 6 4;3? @(+3 =4 EC 52*9+'6 2*?)2*<72<3 4* +3 /4'*9 7 : 45 +3 9'C 72 '4* '* +3 5'?9 4: +3 9/2*9 =+45 3;3* 3264)'9 =29 *4 2@)3 4 3A/)7?3 : 45 +3 '<+ 9 4: /' 'H3*9+'6 9+3 +2? @3/453 97@9 2* '2))(2* 9/2* /' ('* +3 '53 4: +3 93/4*? 7*'/ =2 6 2*? =3 52(:'*? 2 53)2*/+4)(62 2))3 4 +3 :2 3 '* +2 =+'/+ '9 '563*?'*< 4;3 +3 3 52* 4=*9 4*:4 3'* /429 9

* 2-' 8/ ; ; ? ', "' -/)* .072- !-0)* ! 2-/ ; N ? "8: ! 2-! @1: "40,7 ',1 1"50! '"8-

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' ' & ' '

' 4:' +3' 2?' '4*9' 549' ?393*!'*<' 4:' / 3?'' =' +' 3<2 ?' 4' +3' 32)(' +'9 4 (' 4:' 2)(' '9' +2' '*' ;3 (' 2*C /'3*' '539' 2' 6346)3' =+4' ?=3)' 2@47' 547*' "3)'*4' 2*?' +3')2E3' 4:' 3)2*4' 29' :2' 29' 2 934 ' 2*?'B 32 3' =3 3' ? ';3*' : 45' +3*/3' @(' +3' 2@'*39' /45'*<' : 45' R7')2' 7/+' =29' 2 409' 2//47* ..K.G 2*?' ':' "2 s' =+4' <2;3' 2')'9' 4:' +3' 4=*9' +3(' +2?' 649939' '*' +493' 62 9!.I' =29' *4' '56493?' 764*' *4' 4*)(' =3 3' +3' 9' 39' 4:' +493' 4=*9' 29' =3))' 29' +3'' *2539!Z' ?'9 '*/)(' 6 3C 93 ;3?' @7' 4 +3' '*:4 52 '4*' 2)94' /4*/3 *'*<' +35' 97/+' 29' /2**4' @3' 2*95' 3?' + 47<+' 94' 52*(' /3* 7 '39' 3LJB /36' @(' = '' *<9' +3'' /26' 2)' '9 2' =29' 2E3*' @(' 97 C 6 '93$ 2*?' +3' 3A63?' '4*9' =+'/+' :4' 52*(' (32 9' +3(' 93*' 47': 45' 32 3' 4' 3/4;3'' ' 6 4;3?: 7')399' @2*C ?4*'*<' +2' ?'9 '/ ' +3(' /253' ?4=*' +3' *'4' ' '@7 ' * 35*23' %'/7)32' 3))3*2J.' 2*?' :7 +3' 4*' 2' 79 753 '75' 2*?' '/'2' +3(' :47*?' +3' '/7)'2*9' 2*?' 97@?73?' 4' 3A63))3?' +35' '*' 2' *75@3' 4:' 6)2/39' +2' 23*39 3' 2)94' =29' 2' '/7)'2*' 4=*' 9335' 4' @3' '56)'3?' '*' +3' 9 2 353* ' +2' '' 4*/3' @4 3' +3' 33E' *253' 4:' 36+2*3J.' +3' *253' 4:' 79/7)75' 9+3=9' +2' '' @3C)4*<3?' 4' +3' 9253' 6346)3$' 9'*/3' ' 2*?' ' 2 3

08*-2-/' !' F' AA 08*-2-/' '

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+'9 *253 '9 92'? 4 532* 7 ' ' '9 97 3)(' 9'56)3 4 '* 3 6 3 ' ' 4: +493 =+4 =3 3 +3 '*+2@' 2* 9 4: +3 /47* (': 45 +3 @3<'**'*<' 2*9=3 '*< 4 +3 33E +2 E36 +'9: 45 @3'*< 2?5' 3?' 93359 4 +2;3 @33*' +2 +3 5@ '2*9 =3 3 9766493?' @(' 9453 63 +269 53 3)(': 45 +3' '@3'*< ?3353? +3 549 2*/'3* 6346)3 '* 2)(' 4 +2;3 @33*' ? ';3* 47 4: 2 '75 @(' +3 @4 '<'*39$ =+')3 4 +3 9 29/ '@3?' +3' ' 3A67)9'4* 4 +3 2/ 2*' +3 9 2<2'* '*:)73*/3?' '* 62 @(' +3 33E 2)39 2@47 +3 4;'*<9 4: +3 3)29<'2*9 44E +3 @4 '<'*39 :4 2 /4*:)7A 4: =2*?3 '*< '@39 2*? 9766493?' +3' '*2533 4 @3 2 /4 76 '4* 4: '# B:B

3 5'<+ :2/(' +2 +'9 *253 @3'*< 4: 97/+ 2* 2@9 2/ '*2 7 3 579 +2;3 @33* 2* '*;3* '4* 4: +3)2 3 452* +'9 4 '2*9 7 +47<+ ' 52*':39)(' =29 *3;3 +3 32) *''53 4: 2*(' 6346)3 ' '9 :2 4)?3 +2* +3 '53 =+3* 452* +'9 4 (' @3<2* 4 < 4= 47 4: +3 9=2??)'*<B/)4 +39 4: 9/2* (B=4 ?3?' /+ 4*'/)39 %4 29 32)(' 29 2@47 +3 (32 Xk 2))'29 +3 +'9 4 '2* 4: <2 +4/)39 964E3 4: 2 '*79 E'*< 4: +3 @4 '<'*39 2*? '* (/46+ 4* 2))' =+493 '*:4 52 '4* 2@47 453 =29 ?3 ';3?' : 45 '52379 2*? 4 +3 33E = ' 3 9 2992*? 2

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+3 '/3)'2*9 +4=3;3 ?4 *4 @(2*(532*9 ?'926C632 47 4:2 '75 2*(4:+3' 4=*9 9335 4 +2;352'* 2'*3? +3' : 33?45 '* +3 *3'<+@47 +44? 4:+3'@3 2*? 4:453 *?33? +3 /+2*<3 6 4?7/3? '* +3 6467)2 '4* 4:2 /47* (@(*2 '4*2) 5'< 2 '4*9 '993)?45 /456)3 3 7*)399 +3 /4*R73 4 9 2 3 3A 3 5'*2 '*<92;2<39 *4 +3 /2939 +3)4;3 9 4:: 33?45)32;3 +3' +4539$ @7 2 62 2*? /4554*)(+3 52,4 ' (97@5' 4 +3 ;'/4 9 7/+ =29 +3 /293 +3* *+3 6)2/39 +2 =3 3 97@?73? 2 62 4:+3 '*+2@' 2* 9 7*' 3?

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2')3? 29 +3 `3*?=4 ?9 2 3 '* 3 9'2*6 2*? 97/+ 579 '
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SJ4*<73 +29 2 ?'::3 3* ' /+2 2/ 3 ' 4= 9'*/3 +3 5C
@ '2*9 ' ?7 '*< +3' ' 32)(' < 32 *399 ' 3A 3*?3? 29 :2 ' 29
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4*' =')?' : 7' 9' +'9' 6 4@2@)(' '9' *4 +'*<' @7 ' 2*' 2*/'3* ' 963/7)2 ';3' ;'3=' 4:' +3' 52**3 ' '*' =+'/+' 52*E'*?' 2?C ;2*/3?' 4' /';')'H2 '4*' 47 ' 4:' 2' 9 2 3' 4:' 2*'52)' 7?3*399 $ 4:' +3' 9253' E'*?' =' +' +493' 6+')4946+'/2)' +'9 4 '39 ' 29' +3(' =3 3' /2))3?' =' +' =+'/+' =3' =J 3' 97 :3' 3?' ?7 '*<' +3')2 3 ' +2):' 4:' +3')29 ' /3* 7 (' 54 3' 94' +4=3;3 ' @(' +3' = ' 3 9' 4:' 4 +3 ' /47* '39' +2*' +493' 4:' 3 52*(' 2*?' '*' =+'/+' 3;3*' +3' 9 2 3' 4:' @ 7 3' 9633/+)399*399' =29' *4 ' :4 <4 3*' +3' 62<39' 4:' +393' 4@93 ;'*<' 6+')4946+3 9' 9=2 5' =' +' R74 2 '4*9' : 45' @44E9' 4:' 2;3)9' *3' 64'* ' +4=3;3 ' +3(' +2;3' 4;3)44E ' +2 ' *4 ' 2' 9'*<)3' '*9 2*/3' /2*' @3' 6 4?7/3?' 4:' 2' 32))(' 92;2<3' 6346)3' =+'/+' +29' @3C /453' /';')'H3?' 4:' ' 9' 4=*' 2//4 ?' 2*?' +2 ' =+3 3' /';')'H2C '4*' +29' @33*' :4 /3?' 764*' 97/+' 2' 6346)3' : 45' =' +47 !' +3' 6+(9'/2)' ?3/2(' 4:' +3' 2/3' +29' 3*973?$' 29' '*' +3' 3293' 4:' +3' 2 '/E9' +3' 72 2*'9' +3' 5'99'4*9' '*' 3=' 2)':4 *'2' 2*?' +493' 2 ' +3' 263' %4 ' 3;3 (' 2/3' 4:' 53*' +29' 3/3';3?' ' 9' ?39 '*2 '4*' 299'<*3?' 4' ' ' @(' 4?' =' +' +3' /+2 F/ 3 ' =+'/+' '9' 97' 3?' 4' h' ' 2*?' 9 2569' ' ' +3' 94/'2)' 9 2 3' ' 44 ' 29' '9 4)3' ='93)(' 352 E9' 9' 6 '4 ' 4' ' 9' '*?';'?72)' 535@3 9' .$' +3' =+4)3' 6 '4 ' 4' +3' 62 ' +3' 5'9 2E3' 4:' +493' 963/7)2 4 9' '9' +3' ' *4 ' 63 /3';'*<' +2 ' +3' 92;2<3' '9' 3' +3 ' 2' ?3C <3*3 2 3' 2/3 ' 4 ' =29' @7 ' +2):' +752*' : 45' +3' :' 9 ' +3' 2//47* ' 4:' +3' @4 '<'*39' +4=3;3 ' 52(' 2)94' +2;3' @33*' 2' 2?' '4*' +2*?3?' ?4p;*' @(' +3' 93 :9' /4*/3 *'*<' +3' 7?3' /+2 2/ 3 ' 4:' +3' ')4 ?9 ' =+4')2(' 4*' +3' ' @32 B9E'*9 ' =+')3' +3' ' @4*?953*' '))3?' +3' < 47*?' :4 ' +35 ' ' /2**4 ' 2 '93' :'B45' 53 3' /+2*/3' +2 ' +3' 4 ?9 :4 ' ' ' ' ' ' ' ' " ' '

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2*79 '9 92'? 4 +2;3 @33* ;3*3 2 3? @(+3 @4 '<'*39! 29 +3 :47*?3 4: 2 @3 3 =2(4:)':3 4<3 +3 =' + 2 7 * =+4 27<+ +35 +79@2*? (2*? '*?7/3? +35 4 93)3 '*:'A +2@' 2 '4*9 2*79 4 #'2*79 29 /2)'<3 +29 9+3=* =29 +3 <4? 4: +3 9'5 2 7 *2*?+'9 =':3 69 =3 3 549 6 4@2@)(+3 <4? 2*? <4??399 4: +3 32 + ' 9 ;';':('*< 2*? ' 9 3/36 ';3 2*? 6 4?7/ ';3 64=3 9 ?36 +9 =3 3 +'9 E'*<?45 +3 '* 3 6 3 2 '4* =+'/+ 7 *3? +393 <4?9 '* 4 E'*<9 =29 4:)2 3 4 '<'*

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2 '*79 '* 2 ?'::3 3* ?'2)3/ =29 /2))3? 2;'*79 3*/3 '<*4 2* 3A647*?3 9 +2;3 <';3* +'5' 2 @ 4 +3 +3 :4'5?3 4: 2;'*'75 I \ *')'E3 52**3 +3 =3 3 /2))3? $ 2*? 2;'*'75 =29 +3 932 4: +3'

>' ,1 .1":1.' + !!6 8:' -041' 8718 02-' .14".D-' 08' ,1-1' 50 8'-')*' H.061--0.' "--18 8',1 ,18 -,' 2-124'60.' /55' N N

18(1 ,1 4"*' ,1!5 2-' '0 1;5!" 8',1 -'0.*' 06 .(1/ +,0 8 C.11D 4*',0!07*' -' ("!!1:' ',1 :"27,'1.'06',1 28 ,"' -'0.*' +"-' + ',02" :02)" 8: 71802-' 8 ',1 817,)02.,00:' 06',1 4028'" 8 8"41:'"6'1.' ,1./ "8:'80" "8 450.'"' 08'6.04'C.11(1

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K H ('' -(2'" " '$80" " ,' 66 8' @ ' BFN/ ".1' "' 5105!1/ 80" ',1'0+8 81".' ',1 " "' 8"

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3)3 5 2/+79 ?''%3 3* /)299 4:)3<3*?9<';39+'5 3 B /7)39:4 2:2 +3 2*?2?27<+ 3 4:%27*29 I J 4 +3 (C 63 @4 32* 2)2* 4 :4 2 54 +3 I 45 3 ' 93):=29 976C 6493?@('2* 4@9/7 3 /4*/36 '4* 4@3''* +3*3'<+@4'5+44?4:+3 (63 @4 32*9 I\$ 2*? +3 (63 @4 32* 2 E(*5'J I 9335 4@3 *4 4 +3 +2* +3 6346)3 4: 2 R7'*'' 4=''=3 2 3 *4 2: 2'?4:)44E'*<:4 +3 5 (9 3 '479 (63 C @4 32*9'* 2)(=3 52('+3 3 933 +4=' +3<': 9+'/+ +3('93* 4 #3)49 5'<+ @3 +2*?3? 47*? +3 ? '2 '/ : 45 6346)3 4 6346)3 7* ') +3(' 32/+ #4?4*2$ 2 /79 45'6 3C 93 ;3?: 45 +493 2*/'3* '539 =+3* +3 =+4)3 /429 4:+2 932 =29 '*+2@' 3?@(' 3)29<'2* '@39 +3 3)'<'4* 4:2) +393 '@39 @3'*< +3 9253 ' '9 *4)4*<3 3A 2C 4 ?'*2 (' +2 4::3 '*<9 9+47)?+2;3 @33* 93* : 45 94 :2 *?':' @3 @7 2?5' 3? +2 +3 6346)3 /2))3? (63 @4 32*9 52(+2;3 @33* 2 3)29<'2* '@3 '* 2)(+3 6499'@')' (' 52(' @3 +47<+ 4 @3 *32)(' 7 *3?'* 4 2 /3 2'* (' =+3* =3 :'*? +2 +3 ')3 4:+3 /2 '3 9 '9 2)549 2 2 '* =4 ?JV

+3 ;4(2<3 4: ;2*?3 4 2 '75 =' + 2 2'* 4: /2?'2*9 =47)?*4 ?393 ;3 +3 9)'<+ 39 *4 '/3 @3'*< 2* 3;'?3* :'/ '4* =3 3 ' *4 +4 5396 7*< 2*? 2*/'3* $ 94 +2 =3 52(' 3A63/ 4 ?'9/4;3 2* 3A6)2*2 '4* +2 =')/)32 ' 4:' 9 2@97 ?' (' *(' 2?' '4* +4=3;3 9)'<+ '9 3*47<+ 4 ,79 ':(' 79 '* @3)'3;'*< +2 =+3* 94 52*(' 952))' '/7)'2* 4=*9=3 3 9/2 3 3?2 47*?' 2*4 +3 97/+ @32 '*< +3 *253 4: 2)2 '75 9 44?* 4* +3 +')' *32 +3 '@ =+3 3 +3 :4 '*?2 '4*9 4: +3 3 3 *2)' /' (' =3 3 4*3 ?2(' 4 @3)2'?' 9 *253 35'*?3?* +3 33E9 4: 2))2*B '4*' '* 23*2)'2' 4 34;3 =' + +3 33E <3*32)4<3 9

7 82-/ ") B/ "8: 081 C"! '"-/ 920'1:) 1-'2-/ @ 0 6'" 2-' 8/ L !! '

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/2?'2*' 2*?' 3)29<'2*' 2 3' 3R7';2)3*' 3 59' ' 4' +2;3' =3' 2*(' '<+' 4' R739 '4*' +3' 9 2 353*' 4:' #'4C *(9'79' +2' 92/ ':'/39' =3 3' 4:)3 3?' '*' 5354 (' 4:' ;2*B' ?3 ' 29' =3))' 29' 4:' +'9' 54 +3 ' 2 53* 2$ 2*?' +2 ' +3' *2 ';3' +'9 4 '39' 3)2 3?' +4=' +3' +2?' '* 4?7/3?' 2' E*4=C)3?<3' 4:' +3' 2 9' 2*?' 54 3' /';')'H3?' =2(9'!4:')':3' 2*?' +2?' 3* 3 2'*3?' 3 /7)39' 2*?' <';3*' +'5' +'9' ?27<+ 3 ' 27*2' '*' 52 '2<3' @(' =+45' +3' +3 4' @3/253' :2 +3' 4:' 2))29' *?' *4=' ' ' '9' : 45' 2))29' +2' +3' 4=*' 2*?' +')' 26632' 4' 3/3';3' +3' ' *253$:4' *4' 2?' '4*' /2*' @3' :'A' +393' 2)39' 2 3' ?354*9 2@)(' 4)?3' +2*' +3' '53' 4:' 4)(@'79' +3(' /2**4' '*?33?' @3' 4:' 2)'2*' 4 '<'*' '*' +3' 9 '/ 39'93*93G @7'=+4' /2*' /2)/7)2 3' +3' 463 2 '4*' 4:' +2' 3)29<'/' 3)353*' '*' +3' 2 '*' /+2 2/ 3 ' @(' 532*9' 4:' =+'/+' +3' 5(+4)4<(' 2*?' 3)'<'4*' +3' 4 2/)39' 2*?' 6 46+3/'39' 4:' 33/3' <2'*3?' 2*' 3* 2*/3' 25m*<' +3' 4C 52*9' +3' 2 '*9' 2*?' +3' 79/2*9L' 2*?' =+3 3' +2;3' =3' 2*(' 2/3' 4:' +3' 36'/' 2*?')('/' 643 9' 4:' +3' 33E' /' '39' 4*' +3' /429 9' 4:' 2)(' 3' +3' 4:' +493' *32 3' 4' 45!3' 4' 54 3' 3543' : 45' ' ' 4' =+45' 9+3' @3/253' 4:''564 2*/3')4*<' @3:4 3' 9+3' 3A/' 3?' 2*(' 2 3* '4*' '*' +3' 54 +3' /4'5 (L' ' '9' 73' +3' 23/4B 2)'2*' 5(B' +4< 26+3 9' =+493' *2539' +2;3' @33*' 6 393 ;3?' /2**4' =3))' @3' 32)'3' 2' +3' 7 549' +2*' +3' :' 9')3A2*? '2*' 643 9' +3' 36' +3' ' 266)'3?' 4' +3' 643' 7A3*79' '*' +3'B 3A'4:'#'4*(9'79' 39 9' 4*' 2' ?47@ :7)' 32?'*<J0' '5(B')79' 7 29' #'4?39' 4:' 362 3 +79' 2*?' * '<4*79' 8 +3' =4')2 3' 4:' =+45' 63 +269' ; 43H' 4*' 453' '*' ;3 93' 2)94 D' 2 3' /3 2'*)(' *4' 4:' 2*' 32)'3' 2<3' 7 ' +47<+' +3' @2)3' :47<+' @(' 3 /7)39' '*' '<7 '2' 2*?' +'9' 3A63C ?' '4*' 2/ 499' +3')69' 2*?' + 47<+' +3' 63*'*97)2' @3)4*<' 4' +3' 4)?' 3))3*'/' 3 2/)339$ ' ' 579' +2;3!' @33*' @(' 33E' 643 9' '*' 2)(' +2 !' +'9' 3 7 *' : 45' (+32' =29' 35@3))'9+

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=' +' +3' 2?;3* 7 3'4:' 2/79' +3' @2)3' 4*' +3' +)3< 2,2*' :'3)?9' '*' 2562*'2' 2<2'*9' +3' <'2* 9' =+4' :)3?' 4' 37B' 35'2'2*?' +3':47*?'*<4:' 3 /7)2*75' 2*?' 4563'''' *')'E3' 52**3' +3' 33E9' 4*' +3' 4* 79' 4)?' 4:' +'9' 3AC 6)4' 9'*' /(+'2

' 25' :2' :'@45' :''*/('*<' +2' ' ' '9' 6499'@)3' 4' ?3 3/' '*' =+2' 52**3' +3' =4 9+'6' 4:' +3' 2@'*3' 354' 2*/B' 79' =29' 2*9:3 3?' 4' +3' 94*' 4:')/53*2' 4' ='))' ' 6 3 3*?' 4' /4*,3/ 7 3' =+3 +3' +3' 2' 2A'52' 4:' 3 /7)39' 3A'9 3?' @3:4 3' +3' /3*94 9+'6' 4:' 66'79')27C ?'79' +3')'*?' 7' 97 3)(' +3' 549' *2 7 2)' 54?3' 4:' 3A6)2'*'*<' +3' 9 4 (' 4:' +3' 4 ' '" 2*?' '*2 ''' '9' 4' 9766493' +2' +3' =4 9+'6' 4:' 3 /7)39' =29' 2' ' +' ' @3)4*<'*<' 4' +493' +47939$' 2*?' +2' +3' 452*9' '*' +3' 25*' 3' =2' =3 3' /4552*?3?' @(' +3' '@())'*3' @44E9' 4' @(' +3' 2*9=3' 4:' 2*' 4 2/)3 Y)'E3' +2' ?7 '*<' +3' 9253' =2' =+'/+' 3*,4'*3?' +3' 3 3/ '4*' 4:' 9 2 739' 4' +3' @ 2;39' 2*?' +3' ='939' 4:' +3' 33E9 Y 4' 2?46' +3.' =4 9+'6' 4:' 3 /7)39' 254*<2)' +3' 33E' +3 439' 3)3C ;2 3?' 4')(5679' +3' 549' +3 4'/' 2*?' 4Q 2'93' 2' 9 2C 73' '*' +'9' +4*47' =' +' 2' 6 45'93' 4:' @)399'*<9' 4' +493' =+4' 9+47)?' /4*93/ 2 3' +3' ' +3' 4:' +3' ' 97@9 2*/3' 4' +'5' 2(' 63 +269' +'9' =29' 6 39/ '@3?' 4' 2))' 29' +3' 532*9' 4:' @ '*<'*<' +3' '* 3 5'*2@)3' /4* 39' 4' 2' 6 4963 C 479' /4*/)79'4*' ' /4)4992)' 9 2 73' =29' 3 3/ 3?' 4' +'5' '*' +3' (32' XX\' '*' +3' 9253' /3*94 9+'6' 4:' 66'79' =+4' '*?7/3?' +3' 4 ' '" @(' 2' @ '@3' 4' 32/+' +3' ' 39' 4:' +3' ' =4 9+'6' +'9' =29',79)(' ?3353?' 2' @293' 2/ $' 2*?' =+3*' +3' ' +4793' @3/253' 3A '*/ ' *4' '*?33?' 549' 2997 3?)(' =' +'*' 2' (32' 9 '))')399' =' +'*' +' (' ?2(9' @7' '*' +3' < 32' 639 ')3*/3' =+'/+' ?394)2 3?' 453' 3*' (32 9' 2: 3' 53*')44E' 764*' +3' ' :'' 3' 29' 2' ;'9' 2 '4*' 4:' 4?. ' =29' ?7 '*<' +'9' 639 ')3*/3' +2' +3' =4 9+'6' 4:' 9/7)26'79' =29' '* 4?7/3?

A' @*/ L' F?' 1-'2-/@'H0' '24? 1.@2-/08X 8'@ NF ,1':18'06' "(2-'-'-" :'0',"@1')118'08',1' @18'!813')2" ',1'-'15-'06' "(2-' +1.1'08',1'H"!"' 81'? 0:0.2-' D81+',14'S@

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2 +2<3 2)) +3 4=*9 4* +3 /429 : 45 9 '2 4 3 B 2/'*2 2 3 /2))3?2 '* 2*? 2 3 97@,3/ 4 +3 452*9$ 2*? +3 2 +2<'*'2*9 @'*? +3593);39 ':' +3(' 2E3 2*(' 2 '* 4=* *4 97@,3/ 4 +3 452*9 4 ?3)';3 ' 76 4 +35.Jm +3' 52E'*< /4*R739 9J '* +3 '* 3C '4 =29 47 4:' +3 R739 '4*G 94 +2 2 '75 '* +493 ?2(9 579 +2;3 9 3 3+ :7 +3 2)4*< +3 /429 4=2 ? 752G 2*? +3 *253 4:' +3 2 '*9h'9 9(*4*(547 9 =' + +2 4:' +3 (+3*'2*9

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452*+2*4<3*32)*253/456 3+3*?'*<+32@'*392)4*<='+3'@39976649337'9973?':45'+35'+3)2 3 '29=3))'+3 2 9'2*9'2*?3)'<*'2*9'29'+3 25*'39'2*?7/2*'2*9'+3('3 533?'2@3))'2*9'+2'+3933'@39/2))3?'+3593);39'@ $ '4'@ # '9'/3 5*':45'+3'+9/'6'4*'4*'+3'25*'3'?3*2('/4'*3?'*'+3'4/'2)'=2 ')329''''9'/3 2'*'29'4'+3'25*'39'=+493'*253'*'3;3('<4 5''9'52*'(:39)('?3';3?':45'@ $ '2*?'*'+3'33E'23$443$'5 53?'2 3)('94'7'+3'792<3'4:'2'6346)3'=+4'+2;3')3:'*4'='*<9'@3+'*?'+35')'E3'3;3 (+'*<+2''9'4(2))('3A'*/''+29')49''9''<+ 9''+'*E'5 (93):',79':'3?'+3 3:4 3'*'356)4('*<+3 3 5'@ ':4'+3'=+4)3'2/3'(9'*/3'+3''@39'94'*2533?'@('+3 452*'9 2 3':2'54 3'564 2*J'+2**'+3 2@'*39'$ 2*?''=47)?'/)32)('+2;3'4::3*?3?'2 2'*'32'+2?'2*('4*3'/2))3?'+3'25(*'39'2@'*39'%4'+3'*;39'<2'4*9''*'+9'+'9 4 ('2'<3*3 2)'*253'9'*?'963*92@)3

+3'2@3))'2*9'2'+3''53'=+3*'+3'452*'2 59'2?;2*/3?'@3(4*?'+3':4*'3 9'4:'2'75'=3 3'+3'549'='?3)('96 32?'2*?'+3'<32 39'6346)3'*'2)('+3'79/2*9'+2?'2) 32?(':2))3*'29'+3('+2?'933*'')'3':2))'4:'+3'*2'4*9'+2':)47'9+'@3:4 3'+35'+3'(+3*'2*9'+3'5@'2*9'2*?'+3'794*'2*9'9'+3'#4'2*9'=3 3'2'<32'6346)3'*'+3''/4)4*'39'=+')3'+3'54+3'/47*((/4**73?'2'952))'9 2 3$'2*?'29'+2'9 2 3'3*,4(3?'632/3'=+')3'+3''@39''+2?'93*':4'+'=3 3'96 32?'*<2@ 42?'@('532*9'4:'/4*R739 9'2*?'6)2* 2'4*9$'+79'92(9'2 4'=29''='+'+3'4)?'2@'*3'6346)3'+3'

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4 '<'*2)' +453' +3' 6)2/39' '*' +3' *3'<++47 +44?' 4:' 5'B
3 *75 ' '*' +3' +'<+39 ' 63**'*39'4:' +3' @ 7HH' ' =+3 3' +3'
9*4=' '9' 92'?' *3;3 ' 4' ?'926632 ' 3* ' 3)(' 4*' 547* ' 2,3))2 '
2*?' =+3 3' +3' 67)'2*' +3 ?9' 2 3' ? ';3*' '*' 9753 ' 4' +3'
547* 2'*' 629 7 39 ' % 45' +3*/3' +3(''9973?' '*';3 (' 354 3'
'539')4*<'@3:4 3' +3' 4,2*'=2 $' 2*?' ? ';'*<' +3' 29/2*9'
@3:4 3' +35' '*' 4*3' R72 3 ' +3' 5@ '2*9' '*' 2*4 +3 ' +3('
44E' 6499399'4*' 4:' +3' 3 ' 4 (' =+'/+' +H'9' +453' +3' '
253' :4 ' + 33' +4792?' (32 9' 9' +3' 6467)2 '4*' 57)C
'6)'3?' +3 3' 2*?' 4;3 :)4=3?' ' ' 35'< 2 3?' 4' ?':::3 3* '
62 9' +3 3' =29' 2' 3)'<'479' 792<3' 254*<' +3' *2 '4*9'
4:' 2)(' '*' '539' 4:' 93;3 3' 6 3997 3' =+3 +3 ' : 45' =2 ' 4 '
639 ')3*/3' 4' 52E3' 2' ;4=' 4:' 2' 92/ 3?' 96 '*<' I$ ' + D$
+2 ' '9' +2 ' 3;3 (' / 32 7 3' @45' '*' +3' *3A ' 96 '*<'
9+47)?' @3' /4*93/ 2 3?G =+3*' =3* (' (32 9' +2?' 3)269 J I '
+3' /2)3' =3 3' 92/ ':'/3?' 4 ' 3?3353?' +3' (47 +' =3 3'
93* ' 2 @ 4 2 ? ' ;4=' 4:' +'9' E'*?' =29' 52?3' @(' +3'
452*9' '*' +3' 93/4*?' (32 ' 4:' +3' 93/4*?' 7*'/' =2 '
@7 ' 4*)(' =' +' 3<2 ?' 4' +3' ' :)4/E9' 2*?' +3 ?9 I I ' 7/+'
;4=9' 2//4 ?'*<' 4' 2?' '4*')3?' 4' +3' 93*?'*<' 47 ' 4:.'
+3' 2@'*3' /4)4*'39' +3' <4?9' 4' =+45' +3(' =3 3'
?3?'/2 3?I.' /+2 <3?' 92/ 3?' 2*'52)9' 4' <7'?3' +35' 4*'
+3' ' =2(' *3' /4)4*(' =29')3?' @(B' 2' (44?63/E3 ' +3'
@' ?' 4:' 253 9' '* 4' '/3*75 I I ' +3*' 6346)3?' @(' 3B'
)29<'2*9' 4 ' '@7 2'2*9G 2*4 +3 ' @(' 2*' 4A' '* 4' +3')2*?'
4:' +3' 6'/2*9$' +'9' @3/253' +3' < 32 ' 25*' 3' 6346)3G'
+3' ' 6'*'2*9' =3 3' <7'?3?' @(' 2' =4):I I ' +2 ' /4)4*'39'
=3 3' 93* ' 7' : 45' 25*'75 ' =3' E*4=' :'045' +'9 4C
'/2)' 3;'?3*/3' +3' % 3* 2*'2*9' 4*' +3' ? '2 '/' =3 3

08*- 2-/ ' ' ' F
A' @*/ L L L ' ' 1-'2-/@' "41.' 8
U' 08*- 2-/ ' N' '.")0/@' 5' #'"' 1-'2-/@' 1.' -"G
(.24/"8:' "41.' 8 ' V' @*/ ; ; !' F
A '.")0/"8:' 08*- 2-/ 8' ',1'5"--"71-'!"-"920'1:
'.")0/@'5 ':' H! 8*/ !!
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)2*<72<3 =+'/+ +2 9766)2* 3 +3 33E +2)4*< @33* 9763 93?3 @(+3 2 '*

+'9 9/2* /' (4: 752 2 +3 @3<'**'*< 4: +3 :': + /3* 7 (=29 2) 32?('*?363*?3* 4: 2672$ =+'/+ '* 4 +3 /2939 /)32)(3A3 /'93? 2 976 352/(4;3 +3 6)2/39 47*?2@47 ' ' 4)2 4* +3 4 +3 +2*? +2? *4 /4**3A'4* =' + +3 2562*'2*9$ *4 +2? 7/3J2 +3 :4 53 29 +29 @33* 4@93 ;3? 2) 32?('\. 52(=' + <44? 3294* @3 3<2 ?3? 29 2 33E 3' (

@47 +3 (32 \ +3 2562*'2*9 2*? 25*' 39 =3 3 +3 4*)(6346)3 53* '4*3? @(/()2A 4: 2 (2*?2. @3 =33* +3 "7) 7 *79 2*? +3 ')2 79 +3(' 649939 +3 =+4)3 /47* (+3 3 :' 45 +3 (+3*'2* 4 +3 663 32 * +3)2 3 +3 299'<*9 +35 2)) +3 /429 : 45 547* 2 <2*79 4 '/3*75 =+'/+ +3 '*/)7?39 '* 5B @ '2\ 7/2*'2 2 +3 9253 '53 +2? 2 2'*3? ' 9 < 32 C 39 3A 3* 94 +2 2)) +3 93264 9 :' 45 49'?4*'2 4 +7 '" 2 3 3*'7*3 2 3? @(+'5' 7*?3 +'9 +32? #'9C 2*/3 2*? +3 52<*' 7?3 4: +3 7/2*'2* /4*R739 9 944* 52?3 +35 2 ?'9 '*/ 6346)3 :' 45 +3 25*' 39

+3' :' 9 3 ' 4 (=29 4* +3 4=3 32 %4 9453 '53 +3(' ?'? *4 47/+ +3 <7):4: 2 3* 75 +3 /429 4: =+'/+ =29 '* +3 6499399'4* 4: +3 33E /' '39 +3* +3 33E9 :' 9 /4)4*'H3? +2 /429 J +3 3 =3 3 *4 7B /2*'2*9C +3 /47* (+3*' @3)4*<3? 4 +3 +4*'2*9 2*?

(*!";/ 5 '."0/@ 5 '(1!!1 2-/ ' @*/ 6 '72

Y)0@1/ 5 'BB/ 80'1

> 8 ', H'"71 06 ', -' 7107."5,1.-11 ', 1 "2', 0.J : --1.'"' 08 8 ', 1 H, !0!07 ("! 2-124/@0! 5

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3*4 2*9 7 2: 3 +3 ='?3 96 32?'*< 4: +3 25B *' 39 2*?' +3 93)353* 4: +3 7/2*'2*9 '* 3*4 '2 +3 33E /: '39 =3 3 '*;4);3?' '* =2 9 =' + +3 @2 @2C '2*9 =+'/+ 3*?3?' '* +3' 7'* 4 92(9 2@4 I .G +'9 3A6 399'4*9 5'<+ 9335 4 '56)(+2 +3 ' 76 '4* 4: +3 7/2*'2*9 4//7 3?' '*;3 (32)('539 944* 2: 3 +3 :47*?'*< 4: +3 33E /' '39G +'9 +4=3;3 '9 !*4 +'9 532*'*<

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1+3 /5'/2*9 2 3 352 E2@)3 '* +'9 4 (' :4 ' 9 2*?'*< '* 2 9'*<7)2)(' :2;4 2@)3 3)2 '4* 4 +3 452*9' 29 +3' ' 2))'39 4* 2 :44 '*< 4: 3R72)' ('6 2*? +3' ' /4554* +49 ')' (' 4 +3 794*'2* '@39 ' @(' =+'/+ +3 +'))9 4: +3 35'/2+9 =3 3 2)549 ' 97 47*?3?' =29 3;'?3*)(' +3 @4*? 4: +'9 7*'4* +'9 <';39 2 9+4= 4: 6 4@2@')' (' 4 +3 9 2 353* ' 4: 7)'79 (<'*79 ' +2 ' +3(' =3 3 3)29<'2*9 .:$ =+4 579 ' '* +2 ' /293 +2;3 52'* 2'*3? +3593);39 4* +3 2?;2*/3

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=47)? *3;3 +2;3 :2))3* @3:4 3 +3 452*9 ':+3(+2?
3*,4(3? 2 9'5')2 /4*9 ' 7 '4* 2*? +2 7*' (4 =+'/+
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: ; ! $ +3 '53 4: +3 3 9'2* =2 +3 :32 9 2*? 2 3* '4* 4: +3 33E9 =3 3 3A/' 3?* +(+3 ?45'*'4* 4: +3 79/2*9 4;3 +3 (+3*'2* 932$ 2) +47<+ #'4*(C 9'79 '9 5'9 2E3* '* 97664 9'*< ' 4 +2;3 @33* 2: 3 +35 +2 +3 =+4)3 =39 4: 2)(=29 /2))3?* (+3*'2 @(+3 33E9C +2 *253 @3)4*<9 4 +3 2<3 4: +3 <3*7'*3 (+3*'2*9 +3* +3(=3 3 /4*:'*3?* 4 79/2*(2*? 3;3* +3 3 =3 3 ?363*?3* 764* 453 +3' 3*4=* 629 2=2($ 2*? +3' :4 53 < 32 *399 =29 +3)?* 4 @3 :2@7)479 @(+3 /4* 3564 2 '39 4: 4)(@'79 * 452* +'9 4 (+3' '564 2*/3 '9)'5' 3?* 4 +3 63 '4?* @3 =33* +3 E'*<9 2*? +3 2))'/ /4*R739 C 2: 3 =+'/+ +3(2 3 3A 353)(=32E '* /4562 '94* =' + +3 2@3))'2*9 (+3 33E9 +3(2 3 549)(53* '4*3?* 4 +3' ?'9/ 3?' 9453 '539 29 6' 2 39 9453 '539 29 <)7 4*9 @(+3 452*9 4*)(29 ?';'*3 9 2*? 2 '9 9 +3 3 '9 *4 2C ?' '4*2) < 47*? :4 +3 46'*'4* 3* 3 2'*3?* @(+3 54C ?359 +2 '*?363*?3*)(4: +3 3A 3*9';3 356' 3 +3(4*/3 +3)?* +3(=3 3 4*3 4: +3 549 352 E2@)3 *2 '4*9 4: 2* 'R7' (+3 7'*9 4: +3' /' '39 ,$3 *753 4A'9 =4 E9 4: 2 +2 +2;3 @33* ?'9/4;3 3?* +3 *2 '4*2) 96'C ' 4: +3 79/2*9 =+4)44E 764* +35 29 +3' 2*C /39 4 9 2*? 6 '?3? +3593);39 764* +35 Y'3;3* +3 356 '*< 5(9 3 (4: 2)2*<72<3 7 3)(7*E*4=* Y 2 +'9 +29 52?3 +3 54?359 62(54 3 2 3* '4* 4 +35 +2* 4 2*(4 +3 4: +3 2)'2* '@39$ 2*? +3 79/2*9 2 +'9 ?2(2 3 '*/4562 2@)(54 3 3*4=*3? 2*? +4*47 3? +2* +3(=3 3 '* +3 '53 4: ';(*+266')(+3

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+3' 3 47 ' 52E39' 2' 9 47 ' 9 2*?' 2<2'*9' +3' =4' 299756S'
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/4 ?'*< 4 2@4 =3 3 +3 364* '2*9 2*? 2'*7*'2*9 $
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79/2* 2/3 7 =3 3 +393 23 '2*9 29 +3 /45 54*
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=+4 3 ' 3? 40 +3)69 4* +3 '*;29'4* 4: +3 27)9L
3 579 9766493 +3 ;2))'39 4: +3)69 4 +2;3 @33*
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3<'4*9 +4=3;3 =3 3 :2 : 45B@3'*< 2 ?393 4)(@'79
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?439 94$ (3 23 3 2;'9/23)9'75 2 7 *'2 =3 3 4//76'3? @(' +3 79/2*9 29 /4*R73 4 9 2: 3 ? ';'*< 47 +3 6346)3 =+4 '* 2)(' @4 3 +3 *2533 4:' '/7)'2*9 '* +3*9 4:' 3)29<'2*9 2*? (+3*'2*90J 2(R7'*' 44 +2? @3)4*<3? 4 +3 +3992)'2*9 3 79'2 4 +3 /+232*9$ +2 '9 @4 + 4 +3 3)29J2*9 +3 :47*?C '*< 4:')79'75 '9 29/ '@3? 4 3)352/+79Z 2*? +79 3:3 3? 4 ' /309 2 '*9 467)4*'2 2//4 ?'*< 4 9453 =29 2 /4)4*(' 4:' +3 "4)2 3 2*9 =+4 +2? ? ';3* +3 > 4 9'/2*9 :'B45 +'9 /429 .\ 54*< +3 6)2/39 =+'/+ +3 79/259 = 39 3? : 45 +3 3)29<'2*9 #'4*(9'79 53* '4*9 '92IT$ +2 ' =29 *4 4 '<'*2))(' 2* 79/2* /' ( )'39 2 +3 @4 45 4:' +3 9 2 353* 4:' ' 9 @3'*< @7') '@(' 33E9 2: 3 +3 2)?*< 4:' 4(' *? 2))4='*< +'9 9 4 (' 4 @3 ?3 ';3? : 45 +3 3 I')44E 4:' ' 9 *253' (3 2 4 44 +3)? +2 +3 79/2*9 =3 3 *4 ' 9 :' 9 '*+2@' 2* 9 % 45 +'5 4 : 45 "2 s #'4*(9'79 7*?47@ 3?)(' @4 4=3? +'9 2//47* 9 4:' +3 96 32?'*< 4:' +3 79/2*9 4;J2 ? +3 '@3 7 2)9 2 353* 9 +4=C 3;3 6 4@2@)3 '* +3593);39 2*? =3))2 39 3? =3 3 52?3 4 <';3 =2(' 4 +3 2)3 4:' 2 (?'2*' 3A 2/ '4* %4 @(' +'9 +3 :' 9 93)353* 4:' +3 *3=B/453 9 =29 4:' *3/399' (' 6)2/3? 4* +3 /429 4:' +3 4=3 32$ =+'/+ '9 2)94 2997 53? @(' (/46+ 4*'G 2*? +79 < 3=B 76 +3 46'*'4* =+'/+ '* ';(' 629939 :4 /3 2'* (' +2 79/2*(' =29 +3 4 '<'*2) +453 4:' +3 79/2*9 =+3*/3 +3(' 54;3? *4 +C =2 ? 2/ 499 +3 63**'*39 2*? 4=2 ? +3)69 ' ='))* *4 ?'9935@)3 +2 =4 2 '* = ' 3 9 4:' 79/2* +'9C 4 (' %)2//79 2*? 23/'*2 7*R739 '4*2@)(' 3)2 3? +2 . 2 /+4* /253 : 45 +3 947 + 4:' +3 547* 2'*9 2*? @7') +3 =3);3 *4 +3 * /' '39 2* 72 254*< +3 39 IT 7

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=29 ?39 4(3? @(+3 4'' 3*4*39 27? *97@ 39 4* +3 ?2(+2 25'))79 4E "3') '* +3 (32 4 *4*'2 **?3 +3 *253 4: %3)9'*2 =29 2 4*3 '53 +3 /26' 2) 4: 7 '2 I IG +'9 44 9335 9 4 2 <73 +2 +3 *2 '4* ?'?* 4 96 32? : 45 +3 947 + 4: +3 63**'*39

+3 =3);3 /' '39 947 + 4: +3 63**'*39 =+'/+ =3 3 7*' 3? '* 2 /4*:3?3 2/(29 94;3 2'*9 4: +3' 3963/ ';3 ?'9 '/ 9 : 3R73*)(29 +3' *75@3 '9 53* '4*3? 2 3 *4=+3 3 3*753 2 3? @(*253$ 2*? ' '9 ?47@ :7) =+'/+ 254*< 93;3 2) /)2'52* 9 4 +'9 6 3B35'*3*/3 579 ('3)? 4 +3 4 +3 9

+3* ';('9 3)2 '*< +4= +3 2))'39 ;4)7* 33 3? 4 :4 =2 ? /'6'40 2 5253* +3 92(9 +3 79/2* 9 2 39 6 45'9 4 97664 +'5 32/+ 2//4 ?'*< 4 '9 532*9 IJ$ +2 '9 4 92(+3(2)) ?'? 94G 2: 3 =2 +4=3;3 +3 4*)(53* '4*9 3'<+ /' '39 2*? =+2 32/+ 9766)'3? +393 =3 3 23 3 2 R7'*'' 467)4*'2 "4)2 3 23 3 '75 3 79'2)79'75 793))23G +2 2*(=47)? =' +? 2= '9 '*/ 3?'@)3$ @7 2 = ' 3 94 +29 (5'<+ 329')(45' 9453 : +3 4=*9 7*R739 '4*2@)(@3)4*<'*< 4 +3 *75@3 4: :'3 94;3 2'* =3);3 "3') 2*? "7)9'*'"+2? @33* ?39 4(3?G 2*? "3 7)4*'75 +2? ?'926632 3? 2 /' (*3;3 53* '4*3? '* +3 +'9 4 '/2) 2<3 4: 453 2*? @7 4*/3'* +3)3<3*?9$ '* +3 9 4 (=+'/+ ';(+29 3* ' 3)(4;3)44E 4: 2 6 4C 2/ 3? =2 /2 '3? 4* @(7 '2 2<2'*9 2 R7'*'79 '9/79 2*? +3 452*9I.. 467)4*'2 @3'*< 2 /4)4*(: 45 "4)2 3 5 =29 *4 4*3 4: +3 4 '<'*2) =3);3 /' '39G ' /2* 4*)(+2;3 /453 '* 4 +3B 44: 4: 2* 3A '*/ 4*3 4= ': 47 464< 26+(@3 /4 3/ '* 67 '*< "3 7)4*'75 *32 ' +3* "3 7)4*'75 =+'/+ 26632 9 : 45 364 4 +2;3 @33* 64=3 :7) '* 32)('539' 976649'*< ' 9 ?39 7/C '4* 4 +2;3 @33* 4*3 4: +493 2*/'3* 3;3* 9 '* 7 '2 4: =+'/+ *4 3/4 ? 352'*9 52(+2;3 @33* 53 <3? '*

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6)2/39 9335 4 @3 9 ')) =2* '*< 4 /456)3 3 +3 *75@3 4: =3);3 +3 +3 ' ' =29 52?3 76 @(263*2 4 @(4992 4 @(%2397)23 '9 2 R739 '4* +2 /2**4 @3 2*C 9=3 3? =' + /3 2'* (52(3;3* +2;3 @33** 2 6346)3 ?'::3 3* : 45 2)) + 33 4*3 4: =+45 '* 47 9/2* (947 /39 4:'*:4 52 '4* 2@47 7 '2 =3 :'*? *4 +'*< @7 +3 *253 29 '9 +3 /293 =' + +3 2)63*2 39 4 4: =+45 +3 ;3 (*253 '9)49

263*2 '* +3 (32 /47)? /3 2'*)(*4)4*<3 @3 /47* 3? 254*< +3 79/2* 4=*9$:4 +3 263*2 39 +2 '9 2997 3?)(+4 53 3)(9453 '*?';'?72)9 =+4 +2? <4*3 4;3 4 +3 4520*9 +2? 2) 32?(@33* 3*,4('*< +3 :7) '<+ 9 4: 452*/ ' 'H3*9 :4 (32 9 , 3;'479)(+3(+2? =2<3? =2 @(+3593);39 2<2'*9 453G 2*? +47<+ +'*E /2* 52E3 47 '* 2* 3A 353)(?'9:'<7 3? 2*? 4@9/7 3 9 2 353* ?3 ';3? : 45 24 +2 +3' / ' (=29 2 /4)4*(: 45 " 3'' 2*? +3' 2*/39 4 9 2 <3*3 2 '4* @47*? 4 35'< 2 3 @(+3 ;4=: 4: 2 92/ 3? 96 '*<J +3(5'<+ 9 ')) @3 2* '*?363*?3* 9 2 3 +2;3 @3:4 3 53*C '4*3? +3 2*2)4<479 /293 4: 467)4*'2

7 =+')3 '* +'9 '*9 2*/3 3;3'(+'*< '9 7*/3 2'* +3 3 2 3 6 3 (<44? < 47*?9 :4 3A/)7?'*< +3 6 3 3*C 9'4*9 4: 4992)'*(/2))9 ' 4992 4: +3 "4)/'3* 39J. +'9 /45@'*3? =' + +3 53* '4* 4: 2 6346)3 @32 '*< 2)549 +3 9253 *253 +3 "4)/3* 39 =+4 2 3 964E3* 4: 2)4*< =' + +3 7/2*'2*9 2*? ' 6'*'2*9B:B '9 2 97@9 2* '2) < 47*? :4 /4*,3/ 7 '*< +2 +3 4 '<'*2) '*+2@' 2* 9 4: 4992 =3 3 *4 79/2*9 @7 +2? E36 +3' < 47*? 2<2'*9 +3 79/2*9 '9 73)'2 2 2) 3;3* 9 +'9 /' (/47)? *4 @3 53* '4*3? @(';(

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8 1.@ 2-/ 08 n 8 @ DV? 0- : (" "'0 1 18'24 (08 : : --1 "2; ! 0 .17 - H.051.' / 92 10- "518" 8 (24 ":0!1@ --18" 8 -1."' ,1.1 42-")1 " 7"5 "6'1. 1 18'24 ? ',1 +0.:- :.05" 4"* ,"@1)118(1 W

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4*' 4//29'4*' 4:' /'6'40@' 3A63?' '4*$' :4 ' ' ' +2?')4*<' 9'*/3' @33*' 2*9:4 53?' '* 4' 2' 2 '*' /4)4*(. ' '3' 7'*9' 4:' ' 9' =2))9' =+'/+' 2 3' :2 ' @3(4*?' +3' ?'53*9'4*9' 4:' 2' /4C)4*(' @3)4*<' 4' 2*' 32 +3 ' 2<3G' @7 ' +3(' 6 4;3' *4 +'*<' 29' 4' +3' *2 '4*' +2 ' @7)' +35$' :4 ' +3' 9 ()3' 4:' +3' ' 2 /+' 3/ 7 3' '9' *4 ' /4*:'*3?' 4' +3' 79/2*' 4=*9

)' 3' =2))9' 4:' %2397)23' ' 9' +32 3' 2*?' 4 +3 ' 7'*9' +2 ' +2;3' /453' 4')'<+ ' +3 3' ?'96)2(' 2' < 32 *399' *4 ' '*:3 '4 ' 4' +2 ' 4:' 2*(' 4 +3 ' 79/2*' /' (' 4 34;3 ' ' ' '9' 6 4@2@)3' +2 ' +3 3' 29' 3)93=+3 3' ())2' =47)?' 93)3' +'9' /4)4*(' '*' +3' /3* 3' 4:' 2' < 32 ' 3 ' 4 (' 2*?' *4 ' @(' +3' 9'?3' 4:' 2' ?363*?3*' 4=*' *?33?' +3' 4*)(' < 47*?Q:4 ' ' 9' @3'*<' ?47@ :7)' =+3 +3 ' +3' 62 3*' 4:' %)4 3*/3' =29' 4*3' 4:' +3' =3);3' /' '39' 93359' 4' 53' +2 ' =3' 579' +3*' 9766493' ';(' 4' +2;3' 4;3)44E' +3 G' =+'/+' '*' +'9' /293' 9 'E39' 79' 29' R7' 3' '56499'@)3' % 45' +3 ' 3543' 9' 72C '4*' ' ' '9' '*/ 3?'@)3' +2 ' +3 ' :2))' 9+47)?' +2;3' @33*' 6 '4 ' 4' +3' <3*3 2)' 632/3

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+393' 7)'*<' +47939' =3 3' 3A6493?' 4' +493' ;'4)3*' 3C ;4)7 '4*9' @(' =+'/+' 2*' 4)'<2 /+(' '9' 3;3 (=+3 3' + 32 3*3?' 3;3*' : 45' +3' 5'?9' 4:' ' 9' 4=*' @4?(' =+3 3;3 ' ' '9' *4 ' 76+3)?' @(' 9453' 64=3 :7)' 6 4 3/ '4*' : 45' =' +47 ' 463*' 4 ' ?'9935@)3?' @47 ' +3' -)'??)3' 4:' +3' :': +' /3* 7 (' +3' +4793' 4:' +3' ')*"' =3 3' 3A63))3?' :' 45' 3 '75' @(' :4 /3' 4:' 2 59$' 29' +3' :2/ '4*9' 4:' +3' *4@)3' +47939' '*' 79/2*(' @2*'9+' 32/+' 4 +3 ' @(' 7 *9' '*' +3' 5'??)3' 2<39' ' =29' 2)94' '*' +3' 96' ' ' 4:' 97/+' /2)25' 479' :37?9' :4 ' +3' 3:7<339' 4' @3' 39 4 3?' @(' +3' 53?'2 '4*' 4:' +3' 67@)'/' 3*35 (' +3' 452*9' 0I' +3*' +3')2 3' +4=3;3' 3A')3?' +3' =+4)3' +4793' 4:' +3' 2 R7'*9' +3' '<47 ' 4:' +2' 93* 3*/3' =29' *4 ' 4' @3' 5' '<2 3?' @(' 2*(' :4 3'*' '* 3 /399'4* -

;3*' 94')2 3' 29' '*' +3' 93/4*?' 7*'/' =2 ' =3' :'*?' +3' <4;3 *53*' 4:' +3' 79/2*' /' '39' ;39 3?' 3A/)79';3)(' '*' +3' 93*2 4 9' +2' '9' '*' +3' *4@)399' *' +3' 947 +' 4:' 2)(' =+3 3' +3' 976 353' 64=3 ' =29' 3;3 (=+3 3' 9+2 3?'@3 =33*' +3' 93*2 3' 2*?' +3' 6346)3' =3' E*4=' =+2' =3 3' +3' 93* 'C 53* 9' 4:' @4 +' 4 ?3 9' 2' +2' / '9'9' *' 7 '2' =+3*' 2' :3 53*' @3<2*' 4' 9+3=' ' 93):' ' ' =29' 3* ' 3)(' 9766 39' @(' 93/7 '*<' +3' 97@5'99'4*' 4:' +3' 93*2 3' 2' 3 '756' +3' 6346)3' 2 3' R7' 3' 47' 4:' +3' R739 '4*' I.' .

+'9' =2*' 4:' 2' : 33' 2*?' 3963/ 2@)3' /45 54*2) (Y' =+'/+' +3' 79/2*9' 4@9 '*2 3)(' 3 2'*'*<' 2*?' 3A 3*?'*<' +3' ' 4)?' :37?2)' 9(9 35' *3;3' 2))4=3?' 4' < 4=' 76 Y =29' +3' 4//29'4*' 4:' +3' 9'*<7)2' =32E*399' ?'96)2(3?' @(' +3' <'32' '79/2*' /' '39' '*' +3' ' =2 9' =' +' +3' 452*9' =+3 3' +3' ;'/ 4 (' =29' ?3/'?3?' @(' ' 3' *75@3' 2*?' 9 3*< +

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>' "!1. 2-' "; '82-/ ; ' ' .0- 2-/ @'

,1A'.1"' -1' 1' !.") !)2-/ 8-1.'1:' "4087' ,1' +0.D-'06' . -G '0'!1/ "8:' +. ''18' ")02" !' / 8' +, (,/ "-' ', "@1'"!.1": *'0)-1.@1:' S5' #/ "' 7.1"" :1"!' -')0..0+1:' 6.04' 4-12-/ '1!!-' 2-' S5' / 1:' *!) # 06' "' *.., 18 "8' ('* ' +, (,' -2) 4 ''1:' '0')1' 70@1.81:')*' '-' -!"@1-' , -' 42-" 28:02)'1:!*' 41"8' 2!- 8 / +,1',1.' ',1' "2',0.' 0.' ',1' '."8-(.)1.-' : -'0.'1:' ',1' 8"41' ":' ',1' -25.141' 50+1.'6"!!18' $ '0' ',1',"8:-'06' :041-' (' -!"@1-' +,0' ,":')118' 14"8G (5"'1:/='"8:' "' !U.11D' (02!:' -('.(1!*' ,1!5' .17". : 87' ',1' '"! "8' (! 18'-' "-' -2(,3' 60.' ',1' ,1--"! "8-' : :'80" +. '1')0OD-/='1' 4"''1.' +02!:' (1.'" 8!*')1!087' '0' ',1' (!"--' 06' 4".@1!!02-'-'0. 1-' 2" "' -' "' , -'0. ("!'6"('/"8:' -0' .192 .1-' "' ." ' 08"!' 8'1.5.1'"' 08

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:25')('29' '*' 33/3' @7 ' 3)3/ ';3' :4 ')':3')'E3' +3' 452* '
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' /4554*' +'<+6 '39 ' =29' 2664'* 3?' +(' +3' =3);3' /' '39'
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2/ '4*' @(' +'5 6 2*?' '*' 32)'3 ' '539' F' 7*'4*' 9335 9' 4//2C
9'4*2))(' 4' +2;3' @33*' 3::3/ 3?' @(' +3' 64=3 ' 4:' 2' 976 353'
/+'3:' +79' 2))' +3' =3);3' /' '39' 62(' +452<3' 4' 2 R7'*' ,'
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2@47 =+')3 +3(=3 3 9 ')) (+3*'2*9 +3(2 2/E +3 +4/' 2*9 4: !"! "'Z \J 4 ?'967 3 +3 6499399'4* 4: (579 * 4 ?3 4 67*'9+ +3 6' 2/'39 4: +3 52 ' '53 /' '39 +3 D 2/792*9 4;3 2* @4 + +393 '9)2*?9 '* \\ .V$ 2*? +3 9253 579 +2;3 @33* +3 /' '39 4 =+'/+ 4 9'/2 '9 92'? 4 +2;3 62'? '@7 3 '3 79/2* /4)4*(4: '/52 '* +'9 '9)2*? =29 63 +269 2* 4)? 4*3 93)3? +3 3 @(+3 , +3*'2*9$ 2*?: 45 +35 2997 3?)(/253 +3 33E *253 4:);2 J +2)'2 +3 (+3*'2*9 53*C '4*3? 254*< +3 2*/'3* '*+2@' 2* 9 4: 2 ?'*'2 =3 3 7*R739 '4*2@)(3)29<'2*9

+3 9253 (+3*'2*9 44 2*? *4 +3 79/2*9 579 +2;3 @33* +3 6346)3 @(=+493 6' 2/'39 +3 =39 3 * 9329 =3 3 52?3 '562992@)3 :4 632/3:7) 52 '*3 9 @3:4 3 +3 :47*?'*< 4: +3 33E /4)4*'39 '* '/')(IZ +3' 6' 2/'39 =3 3 2997 3?)(+3 6 '*/'62) /2793 +2 /4563))3? +3 +4/232*9 4 356)4(<2))'39 '* +3' ;4(2<39 4 2 B 3997 9. 7@93R''6*)(2) +3 /4 92' 9 4: +3 4=3 32 3;3* +3 * '2 39 9335 4 +2;3 @33* 3<2 ?3? @(+3 33E9 29 (+3*'2*9 7 3;3* ': +3 79/2*9 +2;3 +2? 4 2*9=3 :4 54 3 +2* +3(=3 3 <7') (4: 9 ')) +3(:7))(?393 ;3? 4 @3 9 '<52 'H3? 2*? +2 3? 29 6' 2 39

"..Q/920'1:)* 1.@ 2-/ 08 8 ; B 3 '.")0/@ 5 : # "- " 4".@1!? *1" 1@18 " ' , - :"* " - 81@1. -41!'1: ', 1.1'3)1("2-1 ', 1.1 42-")1 "' '."8-50." 1 ', 1.06 (0"! 0. 06 ', 1 0.1/ "8: ', 1 !"'1. - ', 1 40.1 (08@18 18"? I2- " "- ', 1 (0551. 0.1 - (08@1*1: 6.04 0.8+"!! '0 T "!1-

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<())2' 8 23 30' =29' 2)4*3' B3A356 3?' : 45' +3' <3*3 2)' 466 4@ '75'J\J @47 ' ' 2' 9 2 '4*' 4:' 2 53?' 9+'69' =29' 39 2@)'9+ ' @(' *2A')279' 4:' @3<'75 ' *32 ' /263' /())2375 ' 4' @)4/E2?3' +3' 9 2' 9' 2<2'*9 ' +3' ' /4 92' 9' 9' 7 '2' =29' +3*' 2 ' +3' 9755' ' 4:' ' 9' < 32 *399 ' +3' 79/2*9' +2?' +3' /4552*?' 4:' +3' =J4)3' (+3*'2*' 932 ' 2*?' 93* ' 47 ')2 <3' :)33 9' 4*' *2;2)' 3A63?' '4*9 ' *' k ' +3' 6 4 3/C '4*' 4:' '3 4' E'*<' 4:' , 2/793' =29' '*;4E3?' @(' 752' 2<2'*9 ' +35'\I' (' +3' < 32 ' ?3:32 ' =+'/+' +3' ' *2;(' +3*' 979 2'*3?' +3' ' 52 ' '53' 64=3 ' 9335 9' 4' +2;3' @33*' @ 4E3*' 29' '*?2 ' 6 2(3?' +2 ' ' 5'<+ ' @3\SV' %4 ' +3' *2;2)' 2 5253* ' 4:' +3' (2/792*9' '*' +3' (32 ' \\ ' =+'/+' /4*R73 3?');2 ' 2*?' 2;2<3?' +3' 79/2*' /429 ' 2*?' 4 C 9'/2 ' =29' *4 ' 3*/47* 3 3?' @(' 2*(' (+3*'2*' 9+'69C ' ' =29' @(' @ '@3 (' +2 ' 7 '2' <4 ' '?' 4:' +3' 33E' :)33 '\' ' 4 ' ?'?' 2*(' *2;2)' :4 /3' 9+3=' ' 93):' '*' m ' =+3*' #'4C *(9'79 ' 7*?3 ' +3' 6 3 3A ' 4:' 67*'9+'*<' +3' /4 92' 9' 26C 632 3?' 4*' +3' /429 ' 4:' 23 3' =' +' 4*) S6'A (' ' 3539 ' 2*?' 6)7*?3 3?' (<'I I ' 7 ' '*' XX ' 2' 79/2*' 9R72? 4*' 4:' 3'<+ 33*' 9+'69' /253' 4' +3' 299'9 2*/3' 4:' <2 +4/)39' ' 6 4@2@)(' /4 92' 9' %4 ' 2@47 ' +2 ' '53' +3' ' 6' 2/'39' 3AC 3*?3?' 3;3*' '* 4' +3' J <32*' =+3 3' +3' *2;2)' 64=3 ' 4:' +3*9' +2?' 97*E' 2*?' +2 ' 4:' +4?39' =29' 4*)(' @3<'**'*<' 4' '93 ' (' ?39 4('*<' +3' 79/2*' 6' 2 39' +3' +4?'2*9' 32 *3?' +3' < 2 ' 7?3' 4:' +3' 33E' *2 '4*J I ' +'9' 53C ' 4 '479' 3A6)4' ' 9335 9' 4' +2;3' @33*' 2/+'3;3?' '*' +3' '53' @3 =33*' +3' ?32 +' 4:' <2 +4/)39' 2*?' +3' 3A63?' '4*' 4:' (+796 :4 ' : 45' 2' 6 '*/3')'E3' +3' :4 53 ' 6' 2 39' =3 3' 97 3' 4' :'*?' 6 4 3/ '4*' 2 ' +3' 6 '/3' 4:' 9+2 '*<' +3' ' @44 (' =' +' +'5$ 2*?' +3' ' 6' 2/'39' 2997 3?)(' =3 3' *4 ' 4)3 2 3?' @(' +3' 452*9 ' 2*(' 54 3' +2*' +493' 4:' +3' * '2 39

'.")0/ @ '5' ' (' '.")0/ @ '5' B' "

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U' 0:0.2-/ L L ' N

$!' . -' :1-/ ,0:' '5' '"' 5'[W' :'1:' "8''A

'*?33? ' ' 'g 6 4@2@)3 +2 ' +3(' =3 3 @47*? 4 ?3)';3 ' 76 2)) +3' ' 9+'6g 4: =2 ' @(' +3 32 ('6 9'*/3 ' ' =2g : 45 +3 33E /' '3g 4: 947 +3 * 2)(' +2 ' 47'3 4@ 2'*3? +3 ' :3= ' 3539g 2*? :': (B42 ' <2))'3g 2 ' +^ @3<'**'*< 4: +3 :' 9 ' 7*'/ =2

32 '3g @3 =33* +3 79/2* 52 ' '53 /' '3g 2*? 2 +2<3 =3 3 97@9'9 '*< 94)2 3 2g +3 '53 4: '9 4)3$ =+3 3@(' 2g '* +2 ' =' + 453 6 393 ;3? @(' 4)(@'79' +3 '<+ ' 4: /4553 /3 =2g 3<7)2 3? ' 39 '/ 3? ' 2*? 93C /7 3? ' : +3(' 2)94 /4* 2'*3? 9 '67)2 '4*g 2@47 ' <';'*< 299'9 2*/3 l ' +393 /2* 4*)(' +2;3 @33* ;2)'? 2<5*9 ' *2C '4*g *4 ' '*/)7?3? '* 9'5')2 ' 2))'2*/39C 3)93 2 +2<3 /47)? *4 ' +2;3 /4* '*73? :4 ' /3* 7 '3g 4* 3 5g 4: : '3*?9+'6 =' + 453 ' 3 +26g +4=3;3 ' +3 299'9 2*/3 =2g /4*:'*3? 4 +3 2))4='*<)3;'3g 4 @3 2'93? ' * +3 (32 ' XX ' +3 3 =3 3 2 +4792*? 79/2* 53 /3*2 '39!0 '* +3 7*'/ 2 5('* '/')(' 4 44 ' =+3* (+7g =2g '* +2 ' '9)2*?)30h3g =3 3 52?3 '* 2)('Q:4 ' +3 2 C +2<'*'2*g6 @7 ' 453 ?'? *4 '93*? 2*('27A')'2 '39 +3' ' : 7' :7))2*? ' '/+ '* '* 3 *2) 3297 39' 9766)'3? 2@7*?2* ' 52 3 '2)g :4 ' +3 /4553 /'2) 96' ' ' 4: +3 79C /2*g6 2*? +3 3 =2g 2 '53 =+3* 79/2*(' 579 '+2;3 @33* +3 9 26)3 4: /4553 /3 :4 ' +3 /47* '3g 4* +3 3?'C 3 2*32* ' +3 4 +3 ' *2 '4*g 4: 2)(' 2*? +3 354 39' @2 @2 '2* '@39$ =' + =+45' +3 3 =2g 2 /4557*'/2 '4* 93/7 3? : 45' 54)39 2 '4* @(' 2 +'<+B 42? 2/ 49g +3)69 y +3 =4 Eg 4: +3 79/2*J +3 ;3 (' 7'*g 4: =+'/+ 29 4*'9+ 79' /2**4 ' ' 'g R7' 3 /)32 ' +2;3 @33* 3A3C /7 3? '* 952) 9 2 39' =' +47' 29E529 3 g 2*? @4*?53* ' 7' =3 579' *4' 4;3)44E +3 < 32' 9763 '4 ' (' 4: +3 79/2* 7)3 g '* +'g 64'*' 4 +3 <(6 '2*')) +3' ' =4 Eg +2' =3 2 3 2/R72'* 3? =' +' +2;3 2 < 32

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67@)'/' 4@,3/ '))'3 (' 2 3')'4 ' 6(25'?9' 4@3)'9E9' 2*?' 35C 6)39' 57) '6)'3?' =' +47' *75@3 ' :' +3' 6346)3' 97::3 3?' '*' ' 9' +2 ?' 93 ;'/3' ' ' =29' *4' :4 ' '?)3' 67 64939!Z..' 4' 44' 2*?' @(' 532*9' 4:' @E3' 29E=4 E' ?'?' 453' @7')?' =+3*' <4;3 *3?' @(' 79/2*' E'*<9' : 3 ' 9+3' @3/253' : 33' 2))' < 32' =4 E9' =3 3' 2 ' 2' 9 2*?' 7* ')' +3' 367@)'/' +2?' < 4=*' '/+' @(' ' 9' ;'/ 4 '39' 2*?' /4*R739 9C 2*?' =+3*' /4562 3?' =' +' +3 ' 4)?39' =4 E9' 2*?' =' +' +493' 4:' +3' 79/2*' /' '39' +3' @7')?'*<9' 4:' '563 '2)' 453' 52E3' @7' 2*' '*/4*9'?3 2@)3' :'<7 3' +3' =2))9' 4:' "4) 3 2' 2*?' 4:' 4 +3 ' /26' 2)9' 2 3' /4*9 7/ 3?' 4:' +7<3' @)4/E9' 2*?' 94' :2 ' 29' +3(' +2;3' *4' @33*' 9 7?'479)(' ?354+9+' @(' +49 ')3' ;'4C)3*/3' 9 ')' 97@9'9' '*' '563 '9+2@)3' 94)'?' (' +3' +32 3' 2 ' %'394)3' 2*?' 2' /4)4992)' @7')?'*<' *32' ' ' 2 3' 4*' 2*' 3R72))(' < 2*?' 9/2)3' +'9' 9 ()3' +4=3;3 ' '9' *4' 63/7)'2 ' 4' +3' 79/2*9' ' 6 3;2')9' '*' 2)' +3' 54*753* 9' 4:' 2 '75' 2*?' 2*/'3*' 453' :'!45' +3' /3)' 4:' +3' 356)3' 2 ' 2@''' 4' +3' =2)' 47*?' +3' 3 75' 4:' 7<79 79' +3' 6 4@2@')' (' '9' 2 +3 ' +2' ' ' =29' ?3 ';3?' @(' +3' 79/2*9' : 45' +3' 32)'3 ' '*+2@' 2* 9' 4:' 7 '2 +3')2 <39' 62 ' 4:' 79/2*(' '9' 547* 2'*479C +3' '/+' ;2))3(' + 47<+' =+'/+' +3' *4' :)4=9' =29' 2*/'3*)(' 2')2E3' 2*?' 9=256' +3 3' =29' 2')2E3' : 45' 3<*2' 4' @3)4=' %'394)3' 2*?' 4=2 ?' 2 4C +3' ;2))3(' =29' @)4/E' 76' @(' 547*' 4*:2)'*2C +'9' 4/E' +29' @33*' /7' + 47<+' 2*?' 2' 62992<3' 463*3?' :4' +3' 9 325' 4=2 ?' '92.' +3*' +3' =2))9' 4:' %'394)3' =3 3' @7') ' +'9' =+4)3' 3A 3*' =29

@A' '7."8'/' 80' 1;518: '2.1' +"-' 1@1.' -92"8:1.1:' -0' !"@ -,!*')*' ,1' 7*5' "8-/' "-' ', "' +, (,' 42-' ,"@1')118' !" :' 02" 08' ,1' -h52!C (.1' 06' ,1' 4*', ("!' ,1.0' H0.-188"/' 6' +1' 4 7,' .1!*' 08' ,1' :1-(. 5C ' 08' 06' ' +, (,' +"-' '"D18')*' "..Q' 6.04' 8"' @1')00D-' H! 8*J-' 1;5.1-- 08-' S;;;@ /' F' /' # -,1+' ', "' 80' ."(1' 06' " ("8', "@1')118' @ -)!1' 8', -' 41'? *1" -0' (0!0--"!' "8' 1: 6 (1' 42-' ,"@1' !"-'1:' 28C :"4"71:' :0+8' '0' ', -' :"*'? -0' ', "' " ("8')1' 80', 87')2" "' :.1"4' 8:11:' "')2 !: 87' ! D1' ',1' 081' :1-(.)1:')*' "..Q' -' ")-0!2'1!*' 4C 50--)!1/"8:')1!087-' '0' ',1' ." ") "8' 7,'-

K 6', -' 1@18' C 0@"88' !!"8' +"-' "+J'.1'? '

9 '))$:'))3?$ =' +$ =2 3 $' 29$ '9$ 6 4;3?$ @(' +3$ 263 7 39$:4 $? 2'*9$ +3$ =2 3 $ /4;3 3?$ +3$ 9' 3$ =+3 3$)4 3*/3$ *4=$ 9 2*?90.$ 4$ 3:3 $ +2 $ /' ($ 4$ +3$ 79/2*$ 2<3$ '9$ 2$ *4 '4*$ 7 3)($ 7* 3*2@)3 $ 7 $ +3 3$ +29$ 2)94$ @33*$ 2$ /7 $ 52?3$ *32 $ 2$ */'92 $ 4$ 3?335$ +3$ '/+$:'3)?9$ 4:$ +3$ 7663 $ " 2)$?0 54$: 45$ +3$ =2 3 $6 7*)399$ ' $ =29$ '* 4$ +3$)2*'9$ +2 $ +3$ 9 3259 $ =+'/+$ *4=$:4 5$ +'9$ 62 $ 4:$ +3$ ';3 $?'9/+2 <3?$ +3593);39$ 4:$ (4 3 $ 2*?$ +3$ 67 6493$ =29$ 4$)3993*$ +3$ R72* ' ($ 4:$ =2 3 $ '*$ +3$ '@3 $ +3$ 9=2569B$ + 47<+$ =+'/+$ 2**'@2)$ 52 /+ . $ 2 3$ +493$ =+'/+$ +2;3$ *4=$ @33*$? 2'*3?$ 4*$ +3$ '<+ $ @2*E$ 4:$ +3$)4=3 $ 54 $ *$ +493$?2(9$ +3($ 52($ +2;3$ 93 ;3?$ 29$ 2$ @2 '3 $ 2<2'*9 $ +3$ 27)9$ 2*?$ '<7 '2*9 $ 3 +269$ +3($ +2?$ @33*$? 2'*3?$ '*$ 2*$ 32)'3 $ 2<3 $ 2*?$ +2?$ 2: 3 =2 ?$ @33*$ 2@2*?4*3?$:4 $ +2 $ 67 6493$ 4$ +3$ ' 76 '4*$ 4:$ +3$ =2 3 9$ *$ +3$ 4 $ '*$ +3$ *3'<+@47 +44?$ 4:$ 2? '2 $ +3$ 2 $ 4:$ 7 *'*<$ 4:.$ 57??($ ';3 9$ +2?$ @33*$ 6 2/ '9 $ @($ +3$ 79/2*9$ =' +$ 97//399 $ 7/+$ ';^fB9 $ ':$ E36 $ 9+7 $ 76$ @3 =33*$?259 $ 2 3$ /4* '*72))($ 2'9'*<$ +3' $ @3?9$ 94$ +2 $ 2: 3 $ +3$)269J$ 4:$ /3* 7 '39$ +3($ 9 2*?$ 4*$ 2$)3;3)$:2 $ 2@4;3$ +2 $ 4:$ +3$ 2?0 ,4'*'*<$ /47* ($ 3*/3$ ' $ @3/4539$ *3/3992 ($ 4$ 2'93$ +3$?(E39$ '*$ +3$ 9253$ 6 464 '4*$ 7* ')$ +3$ 63 93;3 2*/3$ 4:$ 52*$ '9$ 2 $)29 $ 3A+279 3?$ '*$ +3$ 7*3R72)$ /4* 39 $ =' +$ +3$ 64=3 9$ 4:$ *2 7 3 $ 4=$ 4*3$ 254*<$ +3$ 793:7)$ 2 9$ /2 '3?$ 4*$ @($ +3$ 79/2*9$ '*$ 47 $?2(9 $ '9$ +2 $ 4:$?';3 '*<$ 97/+$ 2 3 9$ '* 4$ 52 9+39 $ '*$ 4 ?3 $ 4$? 2=$ +35$ 4:.$ 2<2'* $ =+3*$ +3$:3 ')'H'*<$?3649' $ +29$ @33*$ 93/ 3 3?$ ($ +'9$ 9(9 35$ +3$ +'2*2$ +29$ < 2?72))($ @33*$ /4*;3 3?$: 45$ 2$ @2 3*$ 639 ')3* '2)$ 9=256$ '* 4$ 2$ '/+$ 6)2'* $ +3 3$ 2$?3) 2$ +4=0 3;3 $ +29$ @3<7*$ 4$:4 5 $ '*$ +3$ 4 $ 29$ '*$)'3$ ')3$ 2*?$ +3$ '99'9'66' $ 9 2*?'*<$ =2 3 9$ =')$ /4))3/ $ @3 =33*$ +3

,1$ 51"-"8" +,0 72 :1-$ -'."871.-$ ', 1.1/ ,"-$)118$!1:$)*$, -$ 5!" 8$ 18-1$ '0$ 6 8:$ ', -$ 02'

K 18(1$ ', 1$:.1":62!$ 828:"' 08-$ ', 1$ ('*$ 1;51. 18(1:$ 8$ ', 1$ 4 ::!1$ "71-$,1$ 7.028:$ 80+$,"-$)118$ 42(,$." -1:

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2 59 4: +3 ';3 2*? ' 9 547 +9 2 3 6 4 7?3? '* 4 +3 932G 2*? +3 :7 +3 +3 547 +9 2?;2*/3 2*? ?';3 <3 +3 @ 42?3 2*? ?3363 ?4 +3)2E39 2*? '*)2*? 9329 52?3 @(' +393 =2 3 9 @3/453 '9 =' + 3:3 3*/3 4 +3 4;3)2('*< 4: 9=2569)'E3 +3 +'2*2 2 6 4C /399 =+'/+ 2 +3 9253 '53 E3369 +3 @3? 4: +3 ';3 : 45 < 4='*< +'<+3 +2 =3 579 7*?3 9 2*?)'*(09 9 2 353* +2 +3 9 325 4: +3 6 +2? @33* <7'?3? @(' +3 79/2*9 '* 4 +3 54 29939 4: +3 2? '2*9J. I '5')2 =4 E9 2 3 *33?3? +3 3 2 +'9 ?2(H +3 /+2**3)9 44 @(' =+'/+ +3 4 ?'9/+2 <39 ' 93): =3 3 ?7< @(' +3 79/2*9 4 @(' +3' 97@,3/ 9G 2*? +3' /2*2)9 2*? ?259 =3 3 +3 532*9 @(' =+'/+ ' 9 ?3) 2 =29 /4*9 7/ 3? *4 +3 53 +4? '* 793 254*<9 +35 :4 <2'*'*<)2*? /4*9'9 3? '*)3 '*< 4::)2E39 :4 53? '* +3 / 2 3 9 4: 3A '*/ ;4)/2*439 @(' 7**3)9 /7 + 47<+ +3 9'?39 4: +3 +')) * +3 3 ' 4 (' 4: 3 7<'2 2*? '* +3 7@7 @'/2 '2* 79/'2 +3 3 2 3 2/39 4: 52*('97/+)2E39 =+'/+ 2 3 /456)3 3)(' ? '3? 76G +3 ;5*3)9 2 3 7*E*4=* 2*? *3;3 /)32 3? 47 @7 9 ')) =4 E

+3 3*4=* 4: +3 79/2*9 29 2 *2 '4* 63/7)'2)(' 35'*3* ' '* +3 2 9 '9 94 :' 5)(' 39 2@)'9+ +2 ' /2**4 3A63/ 2 :2;4 2@)3 3/36 '4* :4 +3 /4*,3/ 7 3 +2 +3 =4 E9 '* @ 4*H3 2*? /)2(' 2*? +3 @29B 3)'3:9 2 '@7 3? 4 +35 =3 3 +3 6 4?7/3 *4 4: +3 7)'*< 6346)3 @7 4: +3' 97@,3/ @4*?53* 2*? +2 +3 79/2*9 6 4C 63)(' 94 /2))3? =3 3 *4)399 2)'3* : 45 +3 2 9 +2* +3 452*9 &3 ' @3)'3;3 +2 +3 3294* 4: +3 9 'E'*< ?'::3 3*/3 =3 4@93 ;3 @3 =33* +3 =4 E9 4: 2 R7'*'* 2*? 3 '75 '9 +2 +3 32 +3 '*+2@' 2* 9 4: *4 +3 * 2*? 947 +3 * 79/2*(' =3 3 4: ?'::3 3* 4 '<'* +3 =4 E9 63/7)'2 4 "4)2 3 23 =3 3 4//29'4*3? @(' 9 9 4*3BR72 '39 7 +3 B =4 :4 53 /' '39 = 47<+ '* /)2(' +3 6 4?7/3

PA H! 8*/ 48 ' 1' 6!24 8' 60--"-921 5. 4 ='61(1.1 0 ,2 (3 171-'0 "48 - q451'2 51. '."8-@1.-24 8 '. "80.24 5" !2:1-

4:' 3 '75' =29' 3?' ;2939' =' +' ;3 (' < 2/3:7)' :'<7 39' '*' 3)'3:' 4:' 2' 9 ()3' 2) 4<3 +3 ' 63/7)'2 '>.ZG +493' 4:' 2 R7'*''' =3 3' 62'* 3?' 2*?' '*' /4)47 ' 2*?' ? 2='*<' 2 3' 3A2/)(')'E3' 9453' ?'9/4;3 3?' *32 ' 4 '* +' 2*?' 3*< 2;3?' '*' #4?=3)).$' =+')3' +3(' ?'::3 ' : 45' +3' 2562*'2*' '*' 2)' +3' 9253!' 62 '/7)2 9' 29' +3' 33E'>' +393' 2 3' 4*)(' :47*?' '*' +3' ?'9 '/' 4:' 2 R7'*''G =+3 3' +3(' 4//7 ' +493' 4:' 3C '75' 2 3' *3;3 ' 53' =' +' +3' ' 9 'E'*<' 3935@)2*/3' 4' +3' 4 '* +'2*' ;2939' 35'*?9' 79' 4:' +3' 9 4 (' 4:' #3B' 52 2 79' 2*?' +'9' /4562*'4*9' +3' 64 3 9' 7/+' ' 2*?' 7<:25 57' $ =+'/+' '9' /)32)(' 532*' ' 4' 3A6 399' +2 ' : 45' 4 '* +' 2 R7'*'" ?3 ';3?' +3 ' 9E')' '*' +2*?)'*<' /)2(' 2*?' +3' 3)3<2*/3' 4:' +3 ' ? 2='*<' 4*' +3 ' ;2939' +'9' '5C 6)'39' +3' 3A'9 3*/3' 4:' 2' 63/7)'2 ' '* 3 /47 93' =' +' 33/3')'E3' +2 ' /2 '3?' 4*' @(' +3 ' *3'<+@47 ' <())2

+3' 79/2*' 9 2 739' '*' +3' 32)'39 ' 2<39' =3 3' 4:' /)2($)'E3' +3' :47 B+4 93?' /+2 '4 ' 4*' +3' 26' 4)'*3' 356)3 ' 92'?' 4' +2;3' @33*' 93 ' 76' 2 ' +3' '53' 4:' ' 9' ?3':'/2 '4*' 7 ' +3' 9 2 739' @3)4*<'*<' 4' +3' :' 9 ' 2<39' 4:' 453 ' 93;3 2)' >4:' =+'/+' =3 3')4*<' 6 393 ;3?' =3 3' 6 4@2@)(' 7*':4 5)(' 4:' @ 4*H3' G 2*?' +'9' '9' +3' 523 '2)' 4:' 2)' +3' 5293 C 6'3/39' +2 ' 9+3?')79 3' 4*' 79/2*' 2

4' ?3*(' +2 ' +'9' 2 ' 4=3?' ' 9' 3:'*353* ' 4' +3' 33): ' '9' 3A 353)(' '?)3 ' 9' 4 '<'*2)' 7?3*399' '9' 6 4;3?' @(' =4 E9' 4:' 2' ;3 (' 32)(' ?2 3G 2*?' 47' +3' 33E9' 2)4*3' =29' +2 ' '?32' 3;32)3?' @(' =+'/+' +3' +752*' @4?(' '9' :29+'4*3?' '* 4')':3' 2*?' @327 (' % 45' +3' ' 96!7' ' 6 4C /33?3?' +3' 962 E' @(' =+'/+' <3*'2)' *2 7 39' +2;3' @33*

20' T0.D-' 06' ', -' D 8:' +1.1' -' !' 1;1(2'1:' 8' ',1' ' 41' 06' 2G 72-'2-/ +,18' ',1' ".' 06' 4"D 87' ',1' "45"8 "8'@"-1-' +"-' +,0!!*'!0-'

A' 02.' ',.027,' C 11(1/ ' FN

0' ('0.1-? H! 8*/ ; ; ;@ '

J' ,1' 4".)!1' +0.D-' 8' ',1' 0!:1-' -'*!1/ +,1',1.' -'"'21-' 0.')"- ' .1! 16-/ +, (,' ".1' ("!!1:' '.2-("8/ ".1' 5.0)")!*' "!' C.11D' ? 60.' ',1' 92"..*' "' 28'" +"-' 80' +0.D' ' !' @1.*' !"'1' 0' !087' "-').08_1' T"-' 80' '00' :1".// ("-' 87' 42-' ,"@1')118' 5.161..1:' '0' ',1' 6".' 40.1' >: 6! (2% 5.0(1--' 06' -(2!5'2.1

X

E'*?)3?' '*' 3;3 (' <3*'2)' 6346)3' 3*/3' +3' 97@,3/ 9' 4:'
+3' 549' @327 ':7)' 79/2*' =4 E9' 4:' 2 ' 4: 3*' @3)4*<'
4' 33E' 5 (+4)4<(6 @7 ' +2;'*<' 4*/3' @33*' 3*)'<+ 3*3?'
+3' 79/2*9' =3 3' 2)94' 2@)3' 4' 32 ' +3' ' 4=*' /4*/36B'
! '4*9' '*' +3' 96' ' ' 4:' 33E9' *3' +'*<' +2 ' 9 'E39'
79' 29' +47<+' ' ' =3 3' 2' *2 '4*2)' /+2 2/ 3 '9 '/' '9' +3'
3A/33?'*<' 2//7 2/(' 4:' +3' ' ? 2='*<' +47<+' 4: 3*' =' +0
47' 2*(' 3<2 ?' 4' < 2/3$' 3A2/)(!)'E3' =+2' =3' 933' '*'
+3' 79/2*' 62'* 3 9' 2' +3' 3;';2)' 4:' 2 ' '*' +3' 5'??)3'
2<39

;3*' 976649'*<' +2' +3' 2 '9' =+4' 3A3/7 3?' +3T9+3B'
=4):' 4:' +3' 26' 4)' =29' *4' 2*' 79/2*' 9 '))' '*' +'9'
=4 E' =+'/+' +29' *4' /47* 3 62 ' 254*<' +493' 4:' +3'
33E9' =3' /)32)(' 933' =+2' 79/2*' 2 ' 579' +2;3'
@33*' 2@47' +3' 5'??)3' 4:' +3' :': +' /3* 7 (' *?' +'9'
579' 6 4@2@)(' +2;3' @33*' +3' 2<3' 4:' +3' ' :'*39' <359'
+2 3;3' '9' '*' 2' 253' 54 3' ?3)'/2 3' 2*?' 94: 3' 9 ()3'
@3)4*<9' 4' 2')2 3' '*' 62' 4' 2' 57/+')2 3' 63 '4?' *'
+3' =4' /3* 7 '39' @3 =33*' +3' '53' =+3*' 7 '2' @30
/253' ?363*?3*' 764*' 453' 2*?' +3' 2<3' 4:' ())2' +3'
2 9' 579' +2;3' @33*' ;3 (' :)47 '9+'*<6' +3' 6346)3' =3 3'
)';'*<' '*' 6 4:47*?' 632/3' 2*?' < 32' =32) +6 2*?' +3' 6 40
963 ' (' 4:' +3' /47* (' =29' 4*)(' ?'9 7 @3?' @(' =4' 9 4 59'
=+'/+' 629' 26'?)(' 4;3 $ '*' 4*3' /2562'<*' 4:' +3' '92)6'*3'
=2' 2*?' '*' +3' 93/4*?' 4:' +2' =' +' 2**'@2)

79/2*' 2 ' +2?' *4' *2 '4*2)' +3 4'/' 9 4 (' 4' =4 E' 4*'
'E3' +2' 4:' 4 +3' /47* '39' ' ' 947<+' :4' 97@,3/ 9!' '*'
+3' 5 (+4)4<(' 4:' +3' 33E96 2*?' +79' +3' T9 4 '39' 4:'
QJ +3@39' 2*?')'75' 579' +2;3' @33*' :25')'2' 4' +3' 6346)3'
+2' 33E' 6435 9' :47*?' 32?3 9' '*' 7 '2' '9' *4' 4' @3'
R739 '4*3?' +3' 39' 2*?' 2 ')2<3' ' 93):' =3 3' 463*' 4'
33E')' 3 2 7 3' +3' 4@9/7 3' '/2*'2*' 4=*' 4:' *(/75

\)' 8' ', -' 50 8" ("! J-' +0.D' -' @1.*' @"!2")!1' ,1' .1":1.'
4"*' !00D' 8' '" "" ',1' 187."@ 87-' 06' '.2-("8', "- .1! 16-/ 5".' (2!".!*'
"" 5 ' /60.' ',1' (028'18"8(1-' ,1' :1"' 06'5 ' / +, (,' -' 28! D1'
"8*', 87' C.11D/ "8:' '-' 1;1(2' 08/ ".1' 1;(11: 87!*' 6 81' ,1'718 2-'
06':1"',' 8'5 ' -' " 51.61(" (,1.2)

2 *4 ' +3 4*)(' 6)2/3 '*' +393 62 9 ' =+3 3 +3 33E 946+'9 9 52?3 54*3(' 6 2*?'*' 32)'3 ' '539 2 +2694?'9 ' 579 ' 97 3)(' +2;3 @33*' 9 '))' 54 3 =3)/453 ' +3*' 3;3*' +3 452*9 =3 3 32?'*< 33E ' 3 9 7?(' =47)? /3 C 2'*)(' @3 57/+' 54 3 <3*3 2)' 25'?' +3 R7'3 ' 4:' 7 '2 ' 4 ' =29 ' ' '*' 2 :4 3'*')2*<72<3 2)4*3 +2 ' +3 33E 9 4 '39 =3 3)'9 3*3?' 4 ' +3 =4 E9 4:' 2 ' 2 3 *4 7*B : 3R73*)(' '*9/ '@3?' =' +' +3 *2539 4:' +3 +3 439 ' 2) 3 3?' +4=3;3 ' 4 97' ' +3 :4 59 4:' +3 '!79/2*')2*<72<3 ' +'9 '9 2*' 7*3R7';4/2)' 6 44:' +2 ' +3(')';3?' '*' +3 9633/+' 4:' +3 *2 '4*' 2*?' '*' 6435 9 '*' +3 *2 ';3 4*<73 ' "2 s' 54 3C 4;3 ' 53* '4*9 9453 79/2*' 2<3?'39 @(' "4)*'79 ' =+4 ' : 45 +'9 =2(' 4:' 9632E'*<'4:' +'5 ' 9335 9 4 +2;3)';3?' *4 ')4*< @3:4 3. I ' +393 2<3?'39 52(' '*?33?' +2;3 @33*' 2 53 3 3A3 /'93 4:' '*<3*7' (' =' +' =+'/+' +3 *2 '4*' +2?' *4 /4*/3 *' 7 ' 4*' +3 4 +3 ' +2*?' +3 +32 3 2 ' %cB 97)c' '9 2 6 44:' +2 ' 33E 6)2(9 ' 3' +3 ' 4 '<'*2)9 4 ' 2*9)2 '4*9 ' =3 3 2/ 3?' +3 3 29 +3(' =3 3 '*' 2 '75 2 ' 79/7)75 ' 2*?' 4;'))c'6B3)93 +3 /4*9 7/ '4*' 4:' 97/+' 2 @7')?'*<'*' +3 33E :4 5 =47)?' @3 7*2//47* 2@)3 ' +2 ' +'9 +32 3 =29 @7') ' @3:4 3 +3 '53 4:' *!!"/ '9 '*?7@'C 2@)3 6 ' 9 9'H3 2*?' 52<*':'/3*/3 2 3 :2 ' @3(4*?' +3 9/2)3 4:' 2 452*' 5')' 2 (' /4)4*('6 2*?'+4=' /47)?' 97/+' 2 /4)4*(' +2;3 ='9+ ' :4 ' 2*(+'*< @7 ' 25 256+' +32 3L' +3 3 9335 9 54 34;3 ' 4 @3 ;3 (' <44?' < 47*?' :4 ' +3)L)4B 3* '*3 2?' '4*' +2 ' ())209 /4)4*(' @7') ' %)4 3*/3 ' 2*?' ?'?' *4 ' 93)3 ' 4*' +3 +')) ' *' *4 79/2*' '*9/ '6 '4*' +4=3;3 ' ?4 =3 :'*?' 2*(+'*< @32 '*< +3 9)'<+ 39 ' 3935C @)2*/3 4 +3 33E' 53 39 ' =+'/+ /47)?' *4 ' +2;3 39/263?' ?3 3/ '4*' 3;3*' '*' 2)2*<72<3 4 2))(' 7*'* 3))'<'@)3$ *4 ' '*?33?' 2*(+'*< +2 ' +29 +3)329 ' 935@)2*/3 4:' ;3 93

H!"'0/ 55 ' 5 ' ' (

"..Q :1 ' ' @ ' F ' 5 ' B ' %" 0!8 2-' : (1)"'/ 92 ' '."701: "-' 2-("-'-(. 5- ' ' ' -' ',1 .1": 87 06 ',1 !0.18' 81 ' :' ' ',1 (04 408 .1": 87/ -' 081 06 ',1 (0..25' 08-' 8'.0:2(1:')*' H0 4508 2-' 66 '2-

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+3 4=* : 45 =+'/+ +3 %39/3**'*3 ?'2)4<73 44E ' 9 *253 @3)4*<3? 4 +3 %2)'9/2*9 *4 4 +3 79/2*9.. I
+3 452* 579'/ =29 ?3 ';3? : 45 7 '2 +3' 9 2<3B9'*<3 9 44 /253 : 45 +3*/3 'E3 +3 5'*9 3)9 '* +3 5'??)3 2<39 +3 79/2* ?2*/3? 2*? 92*< 4 '*9 753* 2) 579'/ =+'/+ E36 '53 =' + +3 ;3 93 =' +47 2*(' 3<7)2 53297 3' '*<3?'*9 753* 9 4//7 +3 3 2*? +3 3 4* +3 54*753* 9 @7 +3 6 463 *2 ';3 '*9 753* =29 +3 :)7 3
'3 79/2* /+2 2/ 3 9 =3 3 :4 53?')'E3 +3 33E : 45 +2 4*3 254*< +3 ;2 '479 2)6+2@3 9 4: ?'::3 3* 4 '<'* :47*?' '* 9'2' : 45 =+'/+ 2)) +3 54?39 4: = ' '*< 793?' '* 7 463 2 3 ?3 ';3? +2 +3 79/2*9 3/3';3? ' ' '5 53?'2 3)(' : 45 +3 +3*'/'2*9 =47)?' *4 @3 6 4;3? @(' +3' /79 45 4: 6 4/33?'*< : 45 '<+ 4)3: 7 +2 4: 45 ' '*< +3 9+4 ;4=3)9 2*? +2 4: *4 '*< ?47@)3? /4*94*2* 9 @(' 2 9'*<)3)3 3 29 '9 ?4*3 '* 2)) +3 252'/ 9(9 359 4: = ' '*< 2 3 67 3)(' 7*'/ 4 '9 +3 =2* 4: +3 ;4=3) $ +47<+ *4 +'*< /2* @3 ?3C 3 5'*3? : 45 +'9 29 4 +3 947*?' =+'/+ +3 35' '/)2*<72<39 +2;3
7 +3 +3*'/'2*9 ?39'<*2 3? *75@3 9 @(')3 3 96 *4 94 +3 79/2*9 +2 =3 /2)) +3 452* *753C 2)9 2 3 79/2*$ 2*? +3(' 4//7 ' : 3R73*)(' 4* +3' ! 54*753* 9 '3(' 2 3 +3 35*2* 9 4: 2 +'3 4<)(6+'/2) 54?3 4: = ' '*< =+'/+ =29 '* 793 @3:4 3 +3 <<3 4: +3 2)6+2@3 '/2)$ 2*?')'E3 +3 *753 2)9 4: +3 H 3/2*9 +3(' 36 393* / 3 2'* 4@,3/ 9 +2 =3 3 2994/'2 3?=' +62 '/7C)2 *75@3 9 +3('2 3 '*?'<3*479 2*? @3)4*< 4 +3 '53 =+3* +3 39 =29 97@9'9 '*<=' + 2))' 9 4 '<'*2) 63/7C)'2 ' '39 @3:4 3 ' 3/3';3? 2*(' '*:)73*/3 : 45 9'2$ 4 +3 '53 =+3* +3 7 ?3 2*'2*9 =3 3 :4 5'*< +3' 2)6+2C @3 2*? +3')' 3 2 7 3

.7 !/ z @ NF

'.")0/ 4 5 F (' 0 ,0+1@1.' ', "' ', -' ! '1."'2.1' +"-' - ;' ',02-"8:' *1".-' 0!:' 8-'1":' 06'.0%2 2 1 3

4 =3 3 +3 6 4:2*3 9/'3*/39 4: 7 '2 +3 53?'/'*3 6+(9'/9 2*? 29 4*45(@4 4=3? 3' +3 : 45 +3 33E9 4 +3 2 +2<'*'2*9 3 +269 +3(' =3 3 @ 47<+ @(' +3 79/2*9 : 45 +3 4 + +3 932 4: +3' '<4?9 .Q 3 3 =3 533 =' + +3 9253 3A 24 ?'*2 (' 6+3*453*4* =+'/+ 9 'E39 79 =' + 29 4*'9+53* '* +3 *3= =4)?' 2* 3AC 353)(' 2//7 2 3 53 +4?' 4: ?3 3 5'*'*< '53' +'9 53C +4?' 44' 94 :2 ' 29 3<2 ?9 +3 /(/)'/2) (32 ' 6 4/33?3?' 4** +3 ;3 (' 6 '*/'6)39 4@93 ;3?' @(' +3 : 253 9 4: +3 4)?' 3A'/2** /4567 2 '4* " 3 (')4*< 63 '4?9 ?3 3 5'*3?' =' + 2//7 2/(' 4* 29 4*45'/2) < 4**?9 =3 3 97@?';'?3?' =' +C 47 3<2 ?' 4 +3 6+3*453*2 4: +3 544* 54*< +3 79/2*9 +4=3;3 +3 3 =29 2)94 2 /';'))7*2 (32 +3 /(/)'/2) 93 ;'*< 4*)(' 29 2 /4 3/ '4** :4 '

+3' +'9 4 (')'E3 +2 4: +3 25'*9 2*? +2)?32*9 =29 '*93 3?' '* 2* 29 4*45'/4B +34)4<'/2) 47)'*3 =+'/+ 35@ 2/3?' +3 =+4)3 /47 93 4: '53' 2*? 27<+ +2 +3 +752*' 2/3 '* +3 6 393* / 32 '4** +29 3'<+ 93/7)2 ?2(9 299'<*3?' 4 ' Y'32/+ ?2(' 4 2 : 39+ 6346)3 Y'2*? +2 ?7 '*< +3 /4* '*72*/3 4:' 4*3 6346)3 6 46+3/(' '9 4 @3 '* +4*47 ?7 '*< +2 4: 2*4 +3 '* 2@29353* .K. +3B 79/2** =33E =29 4:' 3'<+ ?2(9$ 2*? 29 ' '9 549 6 4@2@)3 +2 32/+ 93/7)2 ?2(')'E3 +2 4: +3 79/2*9 +3593);39 IT /4* 2'*3?' 3** 93/'39 4 J32 9 (32 9 =47)?' 52E3 2 93/7)2 =33E +3 *3A 7*' '5.' 53?'2 3)(J2@4;3 +3 =33E =29 +3 (32 4: =33E9 4 X ?2(9 +79 2 93/7)2 (32'() =47)?' /456 '93 XX (32 9C 2*? +'9 ' 52(' @3 /4*,3/ 7 3?' =29 +3 63 '4? 2997537 :4 +3 ?7 2 '4** 4:' +3 7*';3 93$ 7*)399 +3(' =3* 4** 4 93/7)2 93/'39 //4 ?'*< 4 +3' 3)'<'4* 29 '* +2 4: +3 /2*?'*2;'2*9 2)'5' 2*? 3*? =29 :'A 4 +3)':3 3;3** 4:' +3 +'<+39 <4?9 I. 7/+ 2 93/7)2 (32

+, (, +02!:' 80)1 C.11D/ +1 42-" .1":' '>' ' \ 9 ' 1- :1-/ ',1** ,":', -'0. 1-'"8:'5014- ' 1-'2-/@' - 8 -'."1'"@1- H!2'".(,/ *!!"/('B' V' "..Q/920'1:')* 18-0. 02-/ B HA "..Q 8 .80) 2-/920'1:')* ("!/2 '5' '

+3 3:4 3 =29 6 4@2@)(+3 3 5 299'<*3? 4 +3)':3 4:
+3 <4?9 29 +3 *2 7 2) 93?3 =29 4 +3)':3 4:- 52* +3
93/7)2 ?2(4 +2 4: *2 '4*9 +3 93/7)2 =33E 4 +2
4:4*3 +752* 2/3 +3(27<+ 29 =3 E*4= +'9 4 '/2))(
! +2 +3 3A6' 2 '4* 4: 32/+ 93/7)2f ?2(=29 2**47*/3?
@(=4*?3 9 2*? 9'<*9 '* 3))'<'@)3 4 +35 4 =29 +3
/)493 4: 3;3 (*2 7 2) 93/)^z 3* 4: =+'/+ 4: 7*3R72)
)3*< + 52?3 76 2 < 32 ?2(+3 9'<*9 @(=+'/+ 32/+
4: +393 364/+9 +2? @33* :4 39+3=* =3 3 3/4 ?3? '*
+3' +'9 4 (+'9 "2 s 92(9 J =29 = ' ^* '* {'3
3'<+ + 93?3 4: +3 *2 '4* *2 7 2) 93?3 =29 53297 3?
@(+3)4*<39 3 5 4: +752*)':3 +3 :' 9 93?3 4: 2
9 2 3 3*?3?=' + +3 ?32 + 4: +3)4*<39)';3 254*< 2))
+3 63 94*9 @45 4* +3 ?2(=+3* ' =29 :47*?3?$ +3
93/4*?)29 3? 7* ') *4*3 =29)3: 4: 2)) =+4 =3 3)';'*<
2 +3 /)493 4: +3 :' 9 $ 2*? 94 :4 + +3 :' 9 93;3*
93/'39 4: +3 79/2*9 2547* ^? 4 k (32 9 @7 +3
975 4: +3 (32 9 '* +3 3* ;2 '2@)3 93/'39 =29 3R72) 4
+2 '* +3 3* :'A 32/+ 4: =+'/+ /4* 2'*3?

* +3 (32 4: +3 /' (' ' =29 ?3/)2 3? @(+3
25963A39 +2 +3 93/7)2 ?2(4: +3 79/2* 6346)3
=29 ? 2='*< 4 2 /)493 :=3 29975 3 =+2 579 *33?9
@3 < 2* 3? +2 '* 94 ?4'*< +3(2/ 3? '* /4*:4 5' (4
+3' = ' '*<9 +3 79/2* /4567 2 '4* 4: '53 579
+2;3 @3<7* X X (32 9 @3:4 3 453 +3 3'<+ + 93?3 '*

X H!2'".(,/ *!!"/ (B " +"- 8 ', - -18-1 ', " ',1 (041'/
+, (, "551".1: "6'1. ',1 :1"', 06 2! 2- 4-"./ +"-.17".:1:)* ',1
".2-51; 0!("' 2- "- ',1 - 78 ', " "88028(1: ',1 18: 06 ',1 8 ',
-1:1 S 1.@ 2-/ 08 1! ; B/ ('1:)* 0--/ 08 1! @ D, H "!',027,
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 M20'1:)* 18-0. 82-/ B 8 2-(- , -'0. -/ 92"1 0('"@0
10.24 -"1(2!0 -(. 5'"1 -28'/ 2 "..Q '1-'"'2./ 1 920 8241.0 -"1
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92)2-@1 0-'18' - 10.24 1; '2- :1- 78"' - 8'/ (08' 81'2. '"921
-(. 5'24 1-'/ 92"'20. 5. 4 -"1(2! "880.24 62 --1 (18'24 1 92 8
921 92 8'24 1'(='80824 1 :1(424 -251.1--1 92)2- '."8-
"(' - 6 814 60.1 804 8 - '.2-(H!2'".(,/ *!!"/ (B

+3 (32 Xk 2*? +^ 2**2)9 53* '4*3? @("2 s =3 3 = ' 3* 2@47 +3 3*? 4: +3 :47 + /3* '5(4: +3 /' (+3 364/+ '2*9=3 9 =' + 9'*<7)2 3A2/ *399 4 +2 =+3* +3 *2 '4* 2/ 72))(/329 4 3A'9 +2? @33* '*/4 64 2 3? @(+3 452*9 2 9+4 '53 @3:4 3 2*? =29 2)549 3A 3 5'*2 3? @(())2 3'<+ (32 9 2: 3

 : 33 3A62*9'4* 4: +3 '* 3))3/ '* 643 (2*? 9/'3*/3 /47)? *3;3 2E3 6)2/3 254*< 2 6346)3 =+493 6 '?3 2*? /+'3:9 7?( )2('* ?';'*2 '4* 2*? ' 72) 4@93 ;2*/39 % 45 +35 +3 9 452*9 @4 4=3? +3 549 '564 2* 62 4: +2 9/'3*/3 =+'/+ /4*,3/ 7 39 +3 =')) 4: +3 <4?9 : 45 9'<*9 +3(2)4*3 /47)J ?'9/3 * +3 532*'*< 4: 3 ':'/ 6 4 ?'<'39 2*? E*3=' +4=' 4 2663293 +3 = 2 +' 4: +3 /3)39 '2) 64=3 9 +3 67 3 2*? '*:2))'@)3 947 /3 4: +'9 E*4=)3?<3 =29 9766493? 4 @3)4*< 4 +3 79/2*9 3;3 9'*/3 +3 '53 =+3*' ' =29 27<+ 35 @(2<39$ 2 ='93 ?=2 : =+4 493 47 4: +3 < 47*? 97/+ 29 =3 :'*? '* +3 2*/'3* :2@)39 4: +3 3 52*9

P +3 29 32? +3 ?3/ 339 4: ?39 '*('* +3 9 2 9 7 '2 2*? 33/3 '* +3 3* 2')9 4: ;'/ '59 '* 3A 647*?'*< +3 :)'<+ 4: @' ?9 ':' +3 79/2*9 ?'?' *4 2) 4<3 +3 *3<)3/ ' ' +3 2@3))'2*9 =3 3 < 32 3 529 3 9 7 +3 63/7)'2 93/ 3 4: +3 79/2*9 =29 +3 '* 3 6 3 2 '4* 4:)'<+ *'*< +'9 2*? 2)9 +3 @ 2*/+39 4: +3' ! 2 796'/(=3 3 27<+ '* +3' 92/3 ?4 2)9/+44)9 +3(=3 3 2)94)2'? ?4=* +4=3;3 '* +3 92/ 3? @44E9 '* =+'/+ +3 4 2) '*9 7/ '4*9 4: 2<39 =3 3 3/4 ?3?

 * +3 29 2*? '* 2)(+3 944 +92(3 =29 2 W 2* 2*? +3 2@3 3 4: +3 7)'*< 64=!3 9 +3 2)=2(9 '3? 4 E336 +3 6346)3 '* /+2'*9 : +'9 (4E3 +3 9 + '*<96' ' 4: +3 33E9 944* 3293? ' 93):$ 2) +47<+ +3(=3 3 :4*? 4: @)'3;'*< +2 +3 947) 649939939 93/ 3 :2/7) '39 =+'/+ 4: 3* 3*2@)3 ' 4 /2 /+ 2 <)'5693 4: +3 :7 7 3 @(532*9 4: :4 3@4?'*<9 2*? ? 3259 +3 *4@)3 +3 4 4: +3)'2? 32 9 453*9 =' + /4* 356 =+3* /2))3? 4 ?3:3*? +'9

/47* (G 2 ' 453 +3 (4E3 4:' 2 ?3< 2?'*< 9763 9 ' '4* ' =+'/+' =29 2@793?' 29 2*' '*9 753* ' 4:' (2**(' @(' +3 2 '9 4/ 2/(' =29 *4 ' @ 4E3* ' 7* ')' '*:'?3)' (' =29 '* 4?7/3?' @(' +3 2)2@ '2*' 33E ' **'79 ' 2*?' @3/253 *2 7 2)'H3?' 29 54 2)9 ?3/)'*3?' 7/+' '9 +3 /4*/2 3*2 '4*' 4:' +752*' 2::2' 9 ' +2 ' 29 +3 @39 ' +'*<9 +2;3 9453 +'*< @2?' < 4=C '*< 4 +35 ' 2*?' /279'*< +3' ' '*=2 ?' ?3/2(' +3 354;2)' 4:' +'9 '*/'?3* 2)' 3;')' 52(' 2::4 ?' 79 9453 /4*94)2 '4*' =+3*' +3 7'*9 4:' =+2 ' 4*/3 =29 3A/3))3* ' 2 3 9=36 ' 2=2(' =' +' 2))' +3' ' 6)329'*< 3/4))3/ '4*9 2*?' '))79'4*9 ' +3 3 '9 *4' '))' =' +47 ' 9453 <44?' 2 ' ' 9 9'?3

+3 /4* 3* 9 4:' +3 ' 72)' @44E9 =3 3 4:' ' ?'::3 3*' E* ?' +3(' 3935@)3?' +3 492'/2)' '*' 6 39/ '@'*< +3)2=9 4:' +3 9 2 3 29 +3)2=' 4:' +3'<4?9 ' +3(' 4 ?2'*3?' +3 /47 93 4' @3 4@93 ;3?' '*' :47*?'*< 2*?' @7')?'*< 2 /' (' '*' 39 2@)'9+'*< 2*?' /4*93/ 2 '*< 97/+' 3?':'/39 2*?' 6)2/39 29 =3 3 4' @3 92/ 3?' 2*?' '*;'4)2@)3G +3(' 93)3?' +3 /4*9 ' 7 '4*' 4:' +3 /7 '39 ' '@39 ' 2*?' /3* 7 '39JBI ' 2*?' <3*3 2))(' 2))' 3<7)2 '4*9 3)2 ';3 4' =2 ' 2*?' 632/3 +393 =3 3 +3)2=9 4@3(3?' 2 ' :' 9 ' @(' +3 452*9$ =+4 3)2A ' +3' ' '39 ' =' +47 ' /29 '*< +35 ' 29'?3$ 2*?' =+493 2*A'3 (' *3;3 ' 4 2@4)'9+' +35 ' @7 ' 4)32;3 +3 26632 2*/3 97@9'9 '*< ' =+3*' +3 32)' (' +2?')49 ' ' 9 532*C '*< ' =29 2 397)' 4:' +3' ' 4 '<'*2)' 92*/ ' (' +493 @44E9 579 ' 7*?47@ 3?)(' +2;3 @33*' +3 /+'3:' +47<+' *4 ' +3 4*)(' 3A ' :4 ' +3 64* ':'/2)')2=' +3 '*9 ' 7 '4*9 '*' =+'/+' +3 6 3)'5'*2 (' 9 36 =29 4 ? 2=' +3)'5' 9 4:' 2 356)3 :4 ' 27<7 '39 ' 97/+' 29 +3)2=' :4 ' 53297 '*<)2*?' 2*?' :4 ' 52 E'*< 47 ' 2 /256 ' =3 3 54 3 6 4@2@)(' < 47*?3?' 4*' +3 3)'<'479 @44E9 4:' +3 2@'*39

' +3 2//47 ' <';3*' @(' %39,79 4:' +3 452*' ' 72)

$ ' 2(,' -' ',1 1;5.1-- 08 06 1-'2-' T ,"'1@1.' ',"' +. '1./ +,0 -' 06'18 4 -'"D18 ")02 "8(18 (2-'04-/ 4"*',"@1 41"8)*' '/ ',-1)00D-' ("8 08!*',"@1 .1 "'1:' '0 ',1 5. 4 ' @1 (08-' '2' 08/ 8 +, (,' ',1 (18'2. 1-' +1.1 (0450-1:' 06 ',1 1921-'. "8 ,02-1-' , -' (08-' ' '2' 58 (02!:' 80)1 (,"871:' ? ',"' 06 1.@ 2-' 2!! 2-' 4 7,'/ ! D1 "8*' 0',1./ "8:' +"-' -0 $ ' 1-'2-/ @' . '2"!1-

@44E9 +3(2 3 3A6 399)(/2))3? 79/2* 7 29 *4
452* = ' 3 *4= 352'*'*< 52E39 2*(?'9 '*/ '4* @3C
=33* 79/2* 2*? 79/2* ' 'g @(*4 532*g /3 2'*
+2 +493 @44E9 =3 3 ?3 ';3? : 45 +3 9253 6346)3 @(
=+4'* +3 ?4/ '*39 4: 2<39 =3 3 6 393 ;3? +3 3 'g
+3 9253 7*/3 2'* (=' + 3<2 ? 4 +3 26' 4)'*3 35C
6)3$ =+'/+ 'g 92'? 4 @32 52 Eg 4: +3 79/2*g '*
+3 7*'4* 4: ' g + 33 ?3' '39 29 =3)) 29 '* ' g 2 /+' 3/C
7 3 ' 2)) 3;3* g +4=3;3 ' ' =29 '* +3)2*<72<3 2*?
)' 3 2 7 3 4: +3 79/2*g +2 452* (47 +g 4: 2*E
=3 3 '*9 7/ 3? 2@47 +3 5'??)3 4: +3 :': + /3* 7 (29
+3(=3 3 97@93R73*)('* +493 4: +3 33Eg +'g
;3*3 2 '4* 9+': 3? 47*? 2: 3 =2 ? '* 4 /4* 356 :4 +3
4)?B:29+'4*3?)4 3 2*? :4 <3 :7)*399 4: ' g 3A'9 3*/3 *C
?47@ 3?)(44 ' =29 : 45 +3 <3*7'*3 79/2*g +2
+3 @2?<39 4: +3 +'<+39 52<'9 2/(=3 3 2?46 3? @(
+3 452* E'*<9

79/2*(6 4?7/39 2)) +3 *3/3992 '39 4:)':3 '* 2@7*C
?2*/3$ 2*? +3 79/2*g =3 3 *4 7*='))'*< 4 3*,4(
=+2 *2 7 3 <2;3)'35 +3' ' *4 +3 * /79 45 4: 9' C
'*< ?4=* ='/3 2 ?2(4 =3))B)42?3? @42 ?9 97 6 '93?
2*? 9/2*?2)'H3? @3 33E9 =+493 @4?'39 =3 3 92 '9:'3?
=' + ;3 (9/2* (:2 3 3 +2;3 2 ?39/ '6 '4* @(49'C
?4*'79 4: +3 =2(4:)';'*< '* 7 '2 97/+ 29 ' =29 @3C
:4 3 +3 =2 4: ())2 % 45 +3 9'2 '/)7A7 (4: +3' '
35@ 4'?3 3? /2 63 9 9');3 6)2 3 2*? 2'*g 4: @327 ':7)
9)2;39 '/+)(/)2? =3 52(933 +4= +3 /47* (+2?
+ ';3* '5?3 +3 3)2 '4*g '* =+'/+ ' 9 44? 4 453
  ' +'* 2 :3= (32 g 2)) +'g =32) + @3/253 2 6 3(4 +3
94)?'3 ($ 2*? +3 4=*g =' + +3' 3 ' 4 '39 =3 3 62 C
/3))3? 47 254*< +3)3<'4*9

g 4 +3 9 4 '39 4)? +(+34645679 4: +3 9+253C
)39g 6 4:)'<2/(4: +3 79/2*9. =3 52(,4'* +3 54C
?35 2)'2*g '* 3,3/ '*< +35 2) 4<3 +3 'g / 3?7)' (

@*/ ; N V 0:0.2-/@ ',18R2-/ @ :
> ',18R2-/ ;8 5 B

X

: " ! & < +3 52*':4)? :4 59 4: +3 2)'2* *2 '4*2)
2539 +3 5 # 5 79 2)94 +2;3 @33 /2))3? 5)
+'9 =29 6 4*47*/3? - # @(+3 33E9 =+4 52?3
47 +2 ' /4* 2'*3? 2* 2))79'4* 4 +3' < 32 2* 'R7' (
+3 *253 =29 9766493? 4 '*?'/2 3 +2 +3(+2? 3A'9 3?
+3:4 3 +493 2'*B:)44?9 +(=+'/+ '* 52*(/47* '39 29
+3 33E 92<39 44 @3)'3;3? 32)'3 2/39 4: 53* +2?
@33* ?39 4(3?)''9 3 (54)4<'/2) ':)'*< =29 6 4@2@)(
3;3 532 93 '479)('9 /3 2'* +4=3;3 +2 +3
5@ '2*9 =3 3 2 < 32 *2 '4* @3:4 3 +3 '53 4: +3
79/2*9 '* +3 2<3 4: +3 '/3)'2*9 2*? +2 +3(+2;3
2 '<+ 4 +3 *253 4: 2 549 2*/'3* 2*? <3*7'*3 6346)3
4: 2) (+ 3 ' /' (53 '2 =29 @7') 2//4 ?'*< 4
2 40Q \mX (32 9 @3:4 3 @3 =2 =' + 3 9379 4 @3:4 3 453 '9 /3 5* 44 +2 +3' 3 '4 ('*
4)? '539 =29 ;3 (3A 3*9';3$ 6 4@2@)(*4 4*)(35C
@ 2/'*< =+2 3 2'*3? +3 *253 4: 5@ '2 @7 2)94 29
+29 @33* 4@93 ;3? 2) 32?(. +3 947 + 4: 7 '2 2*?
2//4 ?'*< 4 ?'9 '*/ 452* 2?' '4*9)'3 ?'9 '/ 4//7C
6'3? @(+3 2@'*39 @3 =33* +3 63**'*39 2*? +3 '@3
* +3 *4 +B329 9)463 4: +3 63**'*39 4=2 ? +3
663 32 2*? +3 4 +3(2 3 92'? 4 +2;3 96 32? 29
/4*R73 4 9 4 +2;3 3A63))3? +3 '@7 *'2*9 2*?)'3

8' 92 -- 4'" 718- '"! "1 "- ',1 U92 "8- '00 ".1 ("!!1:4)*
T"* 06 (08'."-" '0 ',1 '.2-("8-/ +,0 ,": 44 7."'1:/=' 0 ',1 "G
' 8-/ +,0 +1.1 " 4 ; ." (1/=' 0 ',1 "48 '1- "8: 2("8 "8-/ +,0
0+1: ',1 . 0. 7 8 '0 14 7."' 08 "8: (08921-'/ "8: +1.1 ! D1+ -1
4 ; ." (1-/= "8: -0 08

V H! 8*/ F >)0@1/5

'/7)'2*9 : 45 +3 /429 2*? 4 +2;3 52'* 2'*3? 2* 4@C 9 '*2 3 /4* 39 =' + +3 79/2*9 :4 + ^ 3 ' 4 (' 4* +3)4=3 4

* +'9 4 (' +3 5@ '2*9 2 3 :47*? 39 '/ 3? 4 +3)3: @2*E 4: +3 '@3 $ =' + 945 3 9/2 3 3? 40;*9 4* +3 /429 2*? *32 +3 4 ,' 393 ;3? 4 +35 62)(' 29 2;3**2 =29 @(' +3)2<44*9 62)(' @(' 62('*< '@7 3 4 +3 27)9 +3 5@ '/2 4: +3 33E9 @4 ?3 '*< 4* +3 4@9/7 3 3<'4*9 2 +3 +32? 4: +3 ? '2 '/ '9 4: 2)2 <3 2*? '*?3:'*' 3 3A 3* * 3 4?4 79 ' 32/+39 4 +3 :44 4: +3)69 :4 ' ' '9 : 45 +3 /47* (' 2@4;3 +3 5@ '/2*9 +2 +3 52E39 +3 ';3 9 2 6'9 2*?)6'9 4*3 4: =+'/+ 52(' ;3 (' 6 4@2@)(' @3 +3 **,' :)4= '* 4 +3 9 3 .JB ()2A =+4 /4* 2/ 9 ' 9 *4 +3 * @47*?2 (' 3/E4*9 '/3*75 2 62 4:' I J * +3 32 C)'3 <34< 26+(' 4: +3 643 9 ' 7*?47@ 3?)(' 3A 3*?3? 29 :2 29 547* 2 <2*79 4 # '4* %4 +3 #'453?32* '9)2*?9)'3 4 +3 =39 4: +2 6 454* 4 ('G 2*? 2997 3?)(' /()2A +2? 9453 643 @3:4 3 +'5 =+3* +3 29/ '@3?)'3 =4 9+'6 4: (?'?39 =+'/+ +3)2 3 33E9! :2*/'3? +3(' :47*? 254*< +3 #27*'2*9 4 +3 5@ '/2*9$ 2) +47<+ 2//4 ?'*< 4 +3 /4 3/ /+4 4< 26+(' 4: +'9 4=* '53 +3 299'<*9 +3 /429 @3 =33* +3 5@ '2*9 2*? +3 67C)'2*9 4 +3 2@3))'2*9

%4 79 +3 5@ '2*9 2 3 4*)(' +3 *253 4: 2 < 32 :4 <4 3* 6346)3 ' +3 '53 =+3* +3' /429 !=29 4/C /76'3? @(' 2 '@3 4: +3 27)9 +3)499 4: +393 '/+ /47* '39 9335 9 4 +2;3 @33* 2 3*?3? =' + +2 4: +3' '*?363*?3*/3 ('*< =' +47 2*(' ?3:3*93 4=2 ? +3 *4 +' 4* =+'/+ 9'?3 79/2*(' '9 9+3) 3 3? @(' +3 63*C *'*39 5@ '2 =' +'* ' 9 /4* 2/ 3?)'5' 9 =29 '* 2))' 6 4@2@)' (' 4*3 4: +493 2?,2/3* /47* '39 =+'/+ +3 27)9 2 3 92'? 4 +2;3 3?7/3? 7*?3 +3' ?45'*'4* I . =29 +3' 5')' 2 (' 42?' 94)4*< 29 +3(' 52?3

U Y' 5 N3 60.' ,1' 5!"(1- 8(08'" 8 4). (" U' H0!*) 2-/

3A63?' '4*9 '* 4 2 '75 J * +3 :' 9 =2 =2<3? @(' +3 5@ '2* '@39 =' + +3 452*9 +3(' =3 3 97@?73? '* 2 9'*<)3 @2)3 2*? +47<+ +3(' =3 3 2: 3 =2 ? +7 '3? 4 /4563))3? 4 2E3 62 ' '* +3 /4* 39 9 4:' 54 3 64=3 :7) *2 '4*9 2<2'*9 453 +3(' ?'? *4 +4)? 47)4*<

+3 5@ '2* *2 '4* /4*9'9 3? 4:' 9362 2 3 2/39!.J. 9453 4:' =+'/+ ?=3) '* 4=*9 4 +3 9 '* 7 2) /2*C 4*9 +3 253 39 35@ 2/3? +3 : '3*?9+'6 4:' +3 452*9 @3:4 3 +3)2 3 / 49 +3 5@ '2* @4 ?3 9$ 2*? +3(' 6 393 ;3? ' ! 0+3 2 9'*2 39 2 3 3;3* 53*C '4*3? 29 2 ?'9 '*/ 6346)3 @(' 4)(@'79 2)4*< =' + +3 5@ '2*9 $ 2*? :'<+ '*< 9'*<)(' 2<2'*9 453 +3(' 976C 6)'3? +3 =' + 4//29'4* :4 =4 '756+9

* 4 ?3 4 32 =' + +3 5@ '2*9 +3 452*9 '* +3 :': + /3* 7 (' 356)4(3? 2* 3*;4(' 2/R72'* 3? =' + +3 79/2* 4*<73 &3 +3)2*<72<3 4* +3 <7;'*3 2@)39 =+'/+ 629939 2*? 6 4@2@)(' =' + 3294* :4 5C @ '2* '9 4 2))(' ?':::3 3* : 45 +3 79/2* 4 79 ' '9 7*'* 3))'<'@)3 2) +47<+ ' /4* 2'*9 2 *75@3 4:' =4 ?9 =+'/+ ':' *4 2 '* 9335 /4<*2 3 4 +3 2 '*C 2*? ':' +3 /4*,3/ 7 3 9+2) /4557*'/2 3 :7 +3 4* 29 4 +3 9 4/E 4:' +3 5@ '2*9 '9 =3)) :47*?3?' ' /47)? *4 :2') 4 /4* 2'* 97/+ +3 67 ' (' =' + =+'/+ +3 2 9'*2 3 643)27 79 = 4 3 2 '* 9335 9 2)94 4 97<<39 +2 +3)2*<72<3 4:' +'9 /47* (53*)'E3 +3 932* 964E3* @(' 23;'79 @4 3 2* 2::'*' (' 4 +3 2 '* +3 /+2 2/ 3 9 4* +3 /4'*9 2 3 79/2* 4* +3 2@)39 2 '*

@*/ LL % 4). "1 5052!
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Y H0!*) 2-/ @*/ ; N

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=>< 35@ 2/3? +3 947 +B329 4: 2)($ 2//4 ?'*< 4 +3 54 3 2*/'3* = ' 3 9 : 45 3 264* 75 4 '*C /)7?'*< +2 /' (: 45 +3 ' '9J 4 547* 2 <2*79 4 2 +3 33E /2))3? ' 547* # '4*C J+'/+ 9335 4 +2;3 @33* +3 947 +3 *)'5' 4: 5@ '/2'* +3' 32)(<34< 26+((4)(@'79 +3)26(<'2* 2*? 39926'2* 4469 2 3 9 ')) /)29 7*?3 4*3 +32? +2 97/+ 2* 3A 3* =29 29/ '@3? 4 67)'2 @(+3 452*9 =3 *4C =+3 3 :'*?C 3)93 ' /3 2'*)(9335 9 3;'?3* +2)26(A 2*? 67)79 2 3 +3 9253 *253

+'9 3A 3*9';3 /47* ('9 92'? @(+3 33E 4 +2;3 @33* '*+2@' 3? @(+ 33 ?'9 '*/ '@39 +3 39926'2*9 +3 37/3 '2*9 2*? +3 #27*'2*9$ +3 :' 9 4* +3 63*C '*97)2 4 +3 329 4: 2 3* 75$ +3 37/3 '2*9 4 +3 *4 + 4: +35 2)4*< +3 /429 : 45 7*?79''7* 4 2 '75C @3 =33* +'9 2*? 547* 2 <2*79)2(+3 #27*'2*9 +3 :' 9 2@47 +3 @3<'**'*< 4: +3 :47 + /3* 7 (=3 3 2 3*5' (=' + +3 2 3* '*39 =+')3 +3 =4)2 3 '@39 =3 3 +3' 2))'39 : 3 39926'2*9

(*!";/ 5 X

,1 "' 8 '1.4 8"' 08 +"-(08'."('1: 8'0 Z 8 -("8? ',2- ; +, (, - ',1 -"41 8"41 + ', ;)1(041- ; $ 0 700: 04"8 +. '1. + ! 1@1. -"* 8-'1": 06 ; H 80. "8*700: C.11D +. '1. ',1 .1@1.-1 0:0.2-/ +,0 - 80 !1-- (".1!1-- 8 , -2-1 06 +0.:-',"8 8 0',1. .1-51('-/ -51"D-06<; 4 L L / 8 .1!"' 87',1 , -'0.*06 041 60. ',"*1"./ +,1.1 ,1 5.0G)")!*,": ") 2-)160.1 , 4 2 - .14".D")!1 '," ,1 -,02!: (044 ',1 -"41 06618-1 "7" 8- C.11D 2-"71 8 ,1 , -'0.*06 ',1 *02871. 08*- 2-/ ;@ "* +1 -2550-1 '," 4-12- 2 $ 7 '$9

=3 3 ?';'?3?' 2)329 2//4 *< 4 2@4' '* 4 =4 '@39 +3B 2))3* '*39 2*? +3 2)2@ '2*9 +3 :4 53 +3 6)2/39 '* 37 3 *'2 4* +3 329 3 * /429 4:' +3 2 3* '*3<7):'$ +3 2)2@ '2*9 4 +3 *4 + 4:' +3)26(<'2*' 6 454* 4 (4* +3 ? '2 '/..B * +3 ? ;3;3* +3 39926'2*9 2*? 2))3* '*39 2 3 964E3* 4:' 29 ?'9 '*/ '@39 4;3 @4 + 4:' =+'/+' 2 '756+ =29 /3)3@ 2 3?' '* +3 (32 X k +3 9'56)39 =2(4:'3A6)2'*'*< +'9 '9 4 9766493 +2 +47<+ +3 :4 53 *253 =29 /4554* 4 +3 =+4)3 *2 '4* ' ' '9 +3 3 793?' :4 +3 2)2@ '2*9$ 29 +2 4:' +3 794*'2*9 /253 4 @3 /4*:'*3?' 4 2 9'*<)3 '@3 2 62 4:' +3 =+4)3 6346)3. +3 3 '9 2):34 2* '564 2* 9 2 353* '* /(B)2A =+'/+' +47<+ 3A 353)(/4 76 2*? ?'9,4'* 3?' +29 @33* 549 92 '9:2/ 4 ')(39 4 3?.I 2*? =+'/+' '*:4 59 ?79 +2 +3 3 =3 3 :';3 4*<739 '*)26(<'2 =4 4:' +3 '@39 3:3 3?' 4 2 3 /)32 +3 6'/2*9 4:' 67)'2*9 2*? +3 37/3 '2*9 =4 52(@3 3/4<*'H3?' 2:3 2* 329(353*?2 '4* +3 37 35'2*9 2*? 3* 39'*39 /4 B ! G3964*?'*< 4 2@409 2))3* '*39 2*? 2)2@ '2*9 +3 *253 4:' +3 6346)3 4 =+45 +3 :': + 4*<73 '9 2 'C @7 3?' +3 254*'2*9 52(63 +269 @3 = 3* /4 3/)(2*? 2))' 2/3 4:' +35 52(+2;3 63 '9+ ' 2))' 3;3* 9 /()2A =+4 3A 3*?9)26(<'2 94 :2 4 +3 947 +=39 93359 4 +2;3 532* 2 6346)3 @3 =33* 3 2/)32 2*? 2 3* 75 2 35*2* 4:' +3 +4*'2* 3*4 '2*9 +3 39926'2*9 =^ 3 ;3 (<3*3 2))(9766493?' 9'*C <7)2 29 +3 46'*'4* 947*?9 4 +2;3 @33* 3 2*9 * +3 32)'3 2?' '4*)'3' 2*/39 4 9 =3 3 34/ 3 2*9 /29

'5 ' BB ':' ' ' :' >' 11'5 'NF

U * "41-'C.080@ 2-/ +,0 -1!:04' 4":1'-0 ,"55*'" (08I1('2.1' ' ,"-')118 -,1+8 ")0@1/ 80'1' F / ',"' 8 5'N +1' 42-' .1":/ "@@ ."' 8-'1":'06 "@@!." ' 2' ,1'-18'18(1/ ' =81@$(1./ 42-' "!-0)1' .140@1:'6.04' ,1'5!"(1' ' ,"-')118 ',.2-' 8'0/ +,1.1' ' :1-'.0*-' ,1' -18-1'06 ',1'5"--"71')*' -15"."' 87 (' .]' ' ' ? 4' ' ' ; '6.04' ,1' 418' 08'06 ',1' "48 '1-'3 "8:' ' 42-')1' 8-1.'1:' 8 ',1'60.41.' -1(' 08 ")02' !"5*7 "/ "6'1.' .' B 9 ' "8:')160.1' ' .' J!0 . ' !!' P*L400J' ' -' "' @1.*' -'."871' +0.:',1.1/ "8:'*1' 40.1'-0 ',1'-*808*4'0 05"."

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4* +'9 9+4 3 '* +3 '53 4:   '*49 2: 3 +3 7*:4 7*2 3 3A63?' '4* 4 '/2*'2$ +2;'*< 92')3?)'' +3 2//4 ?'*< 4 4*3 9 4 (2)4*< =' + +3' E'*<J$ =+')3 2//4 ?'*< 4 2*4 +3 +3 =3* 2)4*3 '* R739 4: #c?2)79 2 '? 63B '9+ ; 2*?0 +3(93 47 '* +3 ;2'* '* 3* '4* 4: 2;3*<'*< +'9 ?32 + 764* 4/2)79J +3)3<3*?9 36 393* 3? +35 29 +2;'*< @33* 3*<2<3? '* 2* 7*2;2')'*< 932 /+ 2: 3)27/79J'6 4 +3(=3 3 2 @2*? /45 6493? 4: 3C 2*9 2*? +3 4::96 '*< 4: +3 +3*'2* (47 +9 =+4 +2? @33* ?3)';3 3? 76 29 2* 3A6'2 4 (4::3 '*< 4 '*49 & 4)29)('* 2 2)3 =) '/+ 63 +269 =29 /4*:'*3? 4 +3)3AC 2*? '2* 643 9 +3(=3 3 +3 2?+3 3* 9 4: ?453*379 =+45 +3 +2?)3? 4 2)(,4'*3? @(9453 4/ '2*9 2*?))('2*9P. +^)29 2//47* 52E39 3A6 399 53* '4* 4: +3 2))3* '*39G 2*? 4 +393 3A/)7?'*< +3 2)2@ '2*9 2*? +3' /26' 2) 7*?79'75 =47)? 2)94 3:3 +3 9 2 353* 4: 3 4?4 79 +2 ('2 =29 +3 4 '<'*2) /' (4: +3 39926'2*9 : 45 =+'/+ +3' 4 +3 93)353* 9 6 4/33?3? "2 s 92(9 +2 +3 2))3* '*39 =3 3 ?';'?3? '* 4 + 33 62 9 2*? =3);3 /' '39 & L2' - +3 3 +3 579 532* '@39J '9 3 (54)4<(:4 +3' *253 '9 2: 3 +'9 :29+'4* 2*? '?'/7)479G ' 3;'?3*)(/4539 :'B45

r2 '.")0/@ '5 F'" ') 0 1.0:0'2-/@ B
',18-12-/; '5 '6
'.")0/ '5 ') H!2'".(,/92"1-''C."1(/"8: ,1G -12-/(C
"..Q/6."7." 8 8' 9 .1. ',24 '5 '3 "8: 1-'2-/@/ "!18' 8/ +,0 ,"-1@ :18'!*(051:6.04 "..Q 045".1 K8 8

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Y -',1C.11D-2-1 7 8-'1":'06 "8: 8:11:1;G 5.1--!* 8-'1":'06 H0!!2;/@8 !!'3 ('D ,'B* S"' ',18-#/ B ^ _(,2- "'" "8'2"'? .7 !/ 8;

2 4=* 4: 2))3* 75 =+'/+ '* 33E 579 +2;3 +33* /2))3 2))29 4 2))79G 2*? +2;3 *4 ?47@ +2 +3 3 =29 97/+ 2 4=* '* 2*/'3* 5 39$ @7 9'*<7)2 29 +3 :2/ '9 *4 53* '4* '9 2*(=+3 3 52?3 4: ':... % 45 +393 39926'2*9 +3 4 '232*9 4* +3 <7): 4: +3 523 =3 3 92'? 4 +2;3 ?3 ';3? +3' 4 '<'* 2@409 46'*'4* 9335 9 4 @3 +2 7*?79'75 44 +2? 4*/3 @33* '*C +2@' 3? @(' 2 @ 2*/+ 4: +3 3 2* 2))3* '*39 2*? +2 +'9 64 '4* 5'< 2 3? : 45 +3*/3 4 2/3?4*'2. l ''9 '9 4*3 4: +493 5'< 2 '4*9 =+'/+ 2 3 R7' 3 '*/ 3?'@)3 2*? +3 53* '4* 4: =+'/+ =29 4*)(' '* 3*?3? 4 '*?'/2 3 +3 /4*;'/ '4* 4: 2 *2 '4*2) 2::'*' (')'2 +3 2)2@ '2*9 +4=3;3 =3 3 :4 3'* '*;2?3 9 =+4 3A63))3? +3 2))3*C '*39 : 45 7*?79'75 =3 52(' 329')(' @3)'3;3

4)'E3='93 52(' +3 3 @3 < 47*? !"# +3 2?' '4* +2 +3 32)'3 '*+2@' 2* 9 4: 2'3* 75 4* @3'*< 4;3 C 64=3 3? @(' +2)2* +79 2*? +'9 2/4*'2*9 3 ' 3? 4 7*?79'75.. +2 2 3* 75 2/R7' 3? =29 = 39 3? : 45 +35 : 3 =4 /3* 7 '39 2*? 2 +2): =+3* +3 33E /' (' +2? 2) 32?(' < 4=* ;3 (' 64=3 :7) '* k\ ' ' 2 356 3? 4 ?39 4(')'3 4=*9 4: +3 39926'2*9 2*? 4 3?7/3 +3 6346)3 4 93 ;' 7?3 +'9 =29 +3 =2 '* =+'/+ 2 @'*2 =29 2E3* 2*? 97/+ 3;4) '*< 2 4/' '39 =3 3 63 63 2 3? +3 3 @(' +3 /4*R73 4 9 l. +3 ;3*C <32*/3 4: +32;3* @(' =+'/+ 94 52*(' +47939 '* 2 3* 75 2 3 92'? 4 +2;3 @33* ;'9' 3? '* /4*93R73*/3 =29 +2 :32 :7) 4;3 + 4= @(' =+'/+ ' 9 64=3 =29 :4 2)4*< '53 @ 4E3* +3 549 +4 '@)3 /2 *2<3 +2 @3:3)) 2*(' 33E 2 5(' ?4=* 4 +2 ??2(.. 947*?9 '*/ 3?'@)3 '*?33? +2 +3 /4*R73 4 9 :4))4='*< 2 +3 +33)9 4: 3 :)('*<

PA '15,"82- 8:11:,"- 2LL14"?)2"5.0)")!*',1 08!*7.028: 60.', - 418' 08' 06' ',1 5!"(1 +"- ',"* -041 081 60.41.!* 4":1',1 -"41 (08I1('2.1 "- ',"@1 :081

Y '.")0/@ '5 ') A 2-' 8/4 '

A ',18"12-/; '5 '1 6

Y .0:0'2-/ ' B ' 0:0.2-/; '

6'/2*9' =+4 2 3 92'7 4 +2;3 6 3/3?37 +3 2@3,)'2*9 29 5293 9 4:' +3 /47* (' 2@47' 3*3;3* 75' =3 3 ' 9 3)29<'2*' '*+2@' 2* 9' +3(' =3 3 4*)(' +3 32)'3 ' /4*C R73 4 9' +3 #27*'2*9 +4=3;3 ')'E3 +3 (+3*'2*9 2*7 3*4 '2*9' ' 2//47*' 254*< +3 3)29<'2*9' ' '9 2 9'<*':'/2*' 2/3 '*' 2 *2 '4*2)' <3*32)4<(' 4 :'*7 +2 ' +3 :2 +3 ' 4:' 7579 =29 /2))37 #2 7'79' +3' ' *253 2*9=3 9 4 +2 ' 4:' #2*22*9$ 2*7 +79 | ?32 '9 92'7 4 +2;3 @33*' :47*?37 @(' #2*23. ' +'9 +4=3;3 ' @3)4*<9 4 '539 2* 3/3?3*' 4 +493 =+3*' +3 #27*'2*9 26632 ' '*' +'9 4 (' 29 2 62 ' 4:' +3 67)'2*9' 2*7 =+3*' 29 2@4 4@93 ;39' *4 ?':):3 3*/3 '*')2*<72<3 4 ' +2@' 9 =29 ?'9C /3 *'@)3 @3 =33*' +35' 2*7 +3 <3*7'*3 67)'2*9J I I ' +393 <3*7'*3 67)'2*9' 29 +3 3 59 +35' ?=3)' 4 +3 =39 ' 4:' 547*' 2 <2*79' 2 47*7 +3 @2(' '*' : 4*' 4:' =+'/+')'3 +3 #'453?32*' '9)2*?9 I I ' +3(' 2 3 +3 32*'2*' 67)'2*9 4:')'*(' IJ$ =+4 9632E9 4:' + 33 ?'9C '*/' '@39 4:' 67)'2*9' +3 32*'2*9' +3 #27*'2*9 I I ' 2*7 +3 7/2*'2*9' +393)29 ' =3 3 6 4@2@)(' 2@3))'2*9 =+4 +27 4//76'37 9453 4=*9 '*' 67)'2$ 3' +3 ' 7/2C *'2*9' 4 ' 25*' 39 :4 ' 7/3 '2 @3)4*<37 4 +3)2 3 '$ 2*7 +3 *253 4:' 7/2*'2*9 52(' +2;3 @33*' 2 <3*3 2)' 4*3 :4 ' +3 25*' 3 /4)4*'39' *)399 9453 @4)?*399 4:' ?'C ;'*2 '4*' @3 2))4=2@)3' 2))' 3932 /+39 '* 4 +3 32)(' +'9C 4 (' 4:'*2 '4*9 579 '@3 2@2*?4*3?' :' ' 52(' @3 63 5' 37 4 3A3 /'93 ' ')'2@)3 +47<+' ' ' @3 4 < '3;479 2@793' ' =47)7 /4*,3/ 7 3' +2' +3 4 <'*2)' 67)'2*9 =3 3 6'/2*9' @(' *253 2*7 ?39/3* ' =+4 97@,7<2 37 +3 #27*'2*9$ 2*7 +2' +3)3<3*?9 2@47' #'453?39' 2*7 =+2 3;3 ' @4 3

.' 4 3 N' 2@4' ;' '6' '/

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A' 0.',1.1'-'00:' 1"824' 52!24

H! 8*/ ' N' 48-' 1.)"!2-' "28 0.24' %8-'? $ 6'-0/ 4028" C".7"82"" +02!:',"@1')118' - '2"'1' +,0!!*' 02" 06' "28 "# '"' 52!0.24' 7181."" '. "3 1"8'=' 2("8'=' "28 0.24' 5."1'1.' -25.": 2'"" p(

/' (=29 6' =+'/+ 579 +2;3 649939 2 /4*9'?3 2@)3
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+2? @33* < 32 $ 2*? +3 < 32 *399 =29 9 ')) 2 39 3? @(
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@(2 63 94* 4 2))('<*4 2* 4: +3)2*<72<3 +2 4* 2))
+3 /4'* + 47<+47)26(<'2 ' 33E6 2*? +' =29 +3
)2*<72<3 964E3* @(+3 *2 '4* +2 4: ' 2*/39 4 +2;'*<
<';3* =2(:4 +3 549 62 29 ' ?'? '* /')(4 +3
*4@)3 4*3 +3 2*79'*39 +E3 +3 7 '2*9 964E3
33E 2)4*<=' + +3 4)? ?'2)3/ 4: +3 /47* (JI +3
67)'2* =4 E9 4: 2)'E3 2) '* +'9 62 4: 2)(+2;3
2 33E (3 2 63/7)'2 /+2 2/ 3 +3 32 +3* ;2939
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9' ?453*379' 2*?' #'453?39' =3 3' 3)2 3?' 4' +2;3' /453' 4' 2)(' '*')'E3' 52**3 ' +')4/ 3 39' 6379' 2*?' 9453' 4:' +3' ?39/3*?2* 9' 4:' 3)379' =3 3' @ 47<+' +' +3 ' =' +' 33E' =2 '4 9' 2*?' 4,2*' /26 ';39' @(' 4 +3 ')3<3*?9' =+'/+' 266 46 '2 3?' 2*?' ?3;'93?' 266)'/2 '4*9' :4 ' 2' ;2 '3 (' 4:' 3)'/9' 2*?' 54*753* 9' 7' : 45' *4*3' 4:' +393' 6 3C 3*?3?' 93)353* 9' ?'?' 2*(' 33E' 6346)3' 2 '93C +3' 93)C)3 9' 579' +2;3' @33*' 53 254 6+493?' 2*?' +2;3' ;2*'9+ ')'E3' +3' /4562*'4*9' 4:' #'453?39'QTI

+3' 549' 2*/'3*' 33E' 93)353*' '*' 2)(' 4:' =+'/+' +'9 4 (' 2E39' 2*(' *4 3' '9' +2' 4:' +3' +2)/'?'2*9' 2' 752$ 4 '<'*2))(' 6)2* 3?' '*' 9/+'2' 2*?' +3' 2?,2/3*' 952)' '9C)2*?9' (' +3')3A2*? '2*' /+ 4*4)4<3 9' ' =29' 299'<*3?' 4' 2' ;3 (' 354 3' 2* 'R7' (C @7' 2997 3?)(' +'9' =29' 53 3)(' 4='*<' 4' +3' ' /4**3/ '*<' ' 9' :4'5?3 9' =' +' +3' +3 4'/' <3*32)4J39' %4' =+3*' +3(' +2?' *4' ?3 3 5'*2 3' 9 2 3C 53* 9')'E3' +493' 29' 4' +3' '53' =+3*' +3' 33E' /' '39' '*' '/')(' =3 3' :47*?3?' +3(' +2?' 3/47 93' 4' /4567 '*<' @(' <3*3 2 '4*9' =+'/+' 679+' +3' 32)'39' 364/+9' 57/+' 44' :2' @2/E' ' +' 3<2 ?' 4' 752' +3(' :47*?' *4' 3 2C :4' ' ' +2?')4*<' /329' 4' @3' 2' 33E' /' (C 2*?' =+3*' +'9')3?' +35' 4' /2)/7)2 3' +3' ?2 3' 4:' ' 9' :47*?2 '4*' : 45' +3' <3*32)4<'39' ' ' /253' 47' /4* 2 (' 4' 2))' / 3?'@')' (')4*<' 2* 3 '4' 4' +3' :47*?'*<' 4:' +3' 32)'39' 254*<' +3' /4)4*'39

M20'"' 08-/ +, (,/ '0' ,"@1' "8*' @"!21/ -,02!:')1' 1;'.141!*' 8241.02-/ -114' '0' 41' 02" 06' 5!"(1' 8' ', -' -1(' 08/ + ',' '" @1.*' 61+' 1;(15' 08-

,2-' @*' $@ ' # 1@ :18'!*' 4":1' "' : -' 8(' 08')1'+118' ',1' H ',1(2-"1' "8:' 18". "

)399 354 3 : 45 33/3 +2 +3)32?3 9 4: +3 35'C
< 2* 9 =+4 93)3?* +3 3 @3* +3' /47 93 4;3 7*3AC
6)4 3?* =2 3 9 '9 '* '52 3?* @(' +3)3<3*?* +2 ! +3'
9+'69 =3 3 6 3/3?3?* 2*?* <7'?3?* '* +3 ?2('53 @(' 2
?4;3 2*?* 2 *'<+ @(' +3 /+'53 4: +3 5(9 '/ @ 4*H3
7 3;3** : 45 +3 329 3 ** /429 4: '/')(' +3 :' 9
93)353* 4** 9/+'2 =47)?* +2;3 @33** 2 @4)?* 2?;3*C
7 3 +3 354 3 2<3 2 '@7 3?* 4 752 '9 /3 2'*)('
2 :'/ '4*G @7 =+3** ' =29 :47*?3?* =3 +2;3 *4 532*9
4: ?3 3 5'*'*<

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579 +2;3 :47*?* +3 964 2) 32?(' '*+2@' 3?G @7 +3('
5'<+ @3 ;3 (' =3)/453 4 +3 752*9 7*?3 +3 6 3997 3
4: +3 (+3*'2** =2 2 +3*463 44 =29 :47*?3?* @('
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@4?(' 4: 3 '2*9 39 2@)'9+ +3593);39 4** +3 '9C
)2*?9 4: ' +3/7923 =+'/+ +3 752*9 +2?* 2@2*?4*3?$
2*?* : 45 +35 /253 +3 93 3 9 2 3264)'9 9 *253
9+3=9 +2 ' =29 2 57/+ 54 3 3/3* /' (B +2** 2 +3C
463$ =+'/+ =29 2: 3 =2 ? /2))3?* 2)2/64)'9 :' +3
+3*'2*9 44E 2 9+2 3 '** +3B:47*?'*< 4: 3264)'9 =3
9+47)?* +2;3 6 4@2@)3 < 47*?9 :4 ?2 '*< ' 2@47 +3
'53 4: +3 93)353* 2 +7 '75
+3<'75 =29 6)2* 3?* @(' +3 752*9 '** /4554*
=' + +3 +2)/'?'2** /4)4*'39 '* '/')(' :4 +3 92E3 4:
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PBK 8 N ? "((0.: 87 'O' ,1 (,.08 (!1 06 2-1) 2- H1.G
,"5- " +"-041+,""!"'1./ "6'1.'',1 :1"','06 HO!*(."'1-

A ,1 .',"@ 87 :081-O ,0+1@1.'S '.")0/@ N'" # -114-'@1.**
28(1.'" 8 _1'_1-'S08 *(05,.08/@'B # 920'1-'" -'0.** 6.04 '
4-2-/',"" 0' 42-/',1'("5'" 8 06 "8 ',18 "8 -,5 8',1 (!"8
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6 4/33?3? 4 :47*? +3)2 39 4: +3 +2)/'?'2* 4J;*9 (A79 '* +3 3 ' 4 (4: (+2 '9 +3* =' +47 2 529 3

: +3 33E /' '39 '* 3*4 '2 +3 4)?39 =29 4/ "$ 2)329 2//4 ?'*< 4 +3 2?' '4* +2 +3 :' 9 93)3 9 2 (2/793 2*? 4/ " 2'?3? 32/+ 4 +3 ': (2/793 =29 32))(:47*?3? +' ((32 9 @3:4 3 4 4* I. 4 =29 ' 2//4 ?'*< 4 +3 '*?'<3*479 9 4 (@(=+'/+ +3 2 ';2) 4: +3 :47*?3 9 =29 ?2 3? ,79 2: 3 +3 :' 9 3993*'2* =2 X +3 4/ '2*9 ' =29 3)2 3? =+493 2*/39 4 9! +2? :4))4=3? +3' ' 56'479 /+'3: ,2A 4 4(/4* '*73? =3* ((32 9 '* +^ :'3)? 2<2'*9 3993*3 29 2))'39 4: +3 62 2*9$ 2*? =+3* +3 @4(9 +3( )3: @3+'*? < 3= 76 +3(,4'*3? +3' :2 +3 9 32*=+')3 +3' =2;39 2*? ?27<+ 3 9 /2 '3? 4*0J2 / '5'*2) '* 3 /47 93 =' + +3' 93 ;2* 9G 2*? =+3* 2)3*< + +3 53* =3 3 3 7 *'*< ;'/ 4 '479 4 +3' +4539 +3 =453* /4*9/'479 4: +3' <7') :)3? : 45 +3' = 2 + 2/ 499 +3 932 =' + +g' 62 2547 9 IB +47<+ 96 7*< : 45 2* 4 '<'* 94 @293 2*? '<*45'*'479 +2 +3 52)'/3 4: '5 c79 =29 2'93? 4 : 3*H(@('9 4)30 9'56)3 2//47* 4: +3 2?' '4* +3 2)'2* 4/ '2*9 493 4 <'02 3963/ 2@')' (@(532*9 4: +3')2=<';3 `2)37/79G 2*? +3(2 2'*3? 4 97/+ 6 4963 ' (2*? 64=3 29 4:47*? '664*'75 2*? 3?52 4* +3 4 +3 /429 G 94 +2 +3(=3 3 529 3 9 4: +3 =+4)3 /47* (@3 =33* +3 =4 9329 29 :2 29 +3 @4 C ?3 9 4: +3<'75

+'9 9 4 (2@47 +3 4 '<'* 4: +3 :47*?3 9 4: 4/ '

bWK '.")0/@ '5 F') B ' "

kZ T , (, - (08'."*'0' ,1 !1718: S '.")0/@ '5 NF'(# ', "' ,1 70:'7"@1 .(, "- "8: *-(1!!2-' ,1 .'(,0 (1)1'+118 ,1"!', "8: . (,1-

Y , "-2(,'+"-' ,1 -'0.*/ , "-' I2-")118 1-'")! -, ")*' ,1 I (1.5'" 6.04' H0!*) 2-/ Lj'? ' ' :1 -18'18' -/ 5 '60 !'1: " !' 0+' "' !"-" +1 -11 ,1 41"8 87 06' ,0-1 +0.:- 8 08*- 2-'H1. 1 71'1-/@' NN? $($' $] 2-'", 2-' :01-' 80" '1!! 2- +, "" +". " +"-

2*?' +3' 9'5')2 ' 4*39' 2@47 ' +3' /4)4*(' =+'/+' +2)2* +79'
'9' 92'?' 4' +2;3' 93)3?' 2 ' 2 3* 75' '*' ' ' ' 2*?' 2@47 '
+3' :4))4=3 9' 4:' +3 29 ')32?' 79' 4' /4*,3/ 7 3 ' +2 ' +3'
632/3' 4:' +3' 2 '9 4/ 2 '/2)' 367@)'/9' 579 ' +2;3' @33*' ?'9C
7 @3?' 2 ' +2 ' 63 '4?' '*' 93;3 2)' 6)2/39' @(' +3' 4::96 '*<'
4:' 52 '2<39' /4* 2/ 3?' =' +47 ' +3' 92*/ '4*' 4:' +3')2= '
2*?' +2 ' 53297 39' =3 3' 2E3*' 4' 93*?' +35' 4' 2' ?'9 2*/3 '
4' 3:)3/ '*<' 63 94*' =')' @3)'3;3' 2*(' 4*3' 4:' +393' 9 4 '39'
)' 3 2))(' G (3 ' ' =47)?' @3' 3R72))(' '*/4*9'?3 2 3' 4'
3,3/ ' +35' 29' M7 3)(' < 47*?)399

2 3* 75' 3*,4(3?' +3' '<+ 9' 4:' 2' 54 +3 ' /' (' 2 '
3 2/)32 ' 2*?' +2?' 2 ')329 ' 2*' 3R72)' 9+2 3' =' +' +7 '"'
'*' +3' 93)353* ' *' 39926'2' 2))'64)'9' =29' 6 4@2@)('
/4**3/ 3?' =' +' +3 $' 2*?' 94' =29' (? 79 ' ':' ' ' =29' 32))('
2' 3))3*'/' 4=*' .

+3' /+232*' /' '39 ' (@2 '9' 2*?' 4 4*' 2 3' 92'?' 4'
+2;3' @33*' @7') ' 4<3 +3 ' '*')' \' Z ' +3' :4 53 '
=29' 5'9 399' 4:' +3' /47* (' 2: 3 =2 ?' /2))3?' 7/2*'2 '
2*?' :47*?3?' 49'?4*'2' 2*?' 249G +3')2 3 ' 6499399'*<'
+3' *4 +' 4:' 7 '75 ' :47*?3?' 2'?4*' 4*' +3' 947 +'
4=2 ?' 4/ '' 2*?' 3 '*2' 4*' +3' =39 3 *' /429 ' *4 +3 '
@4?(' 4:' /+232*9' @3'*<' '*;' 3?' @(' +3' (@2 ' 39' @7') '
3 264* 75$ =+'/+' @(' +3' '*?79 '479' /7) ';2 '4*' 4:' ' 9'
3*4 5479)(' :3 ')3' 3 ' 4 (' 2 2'*3?' 4' 3A 24 ?'*2 (

U ' . -'0'!1' "--2.1:!*' +"-' 6".' 6.04' :0 87' -0? 80.' +"-' 4"12-'
+.087' 8' .162- 87' '0')1! 1@1' ', 1' 6"('3')2" + ,'" ',1' -2)-' '2'1:' 60.' "'
+"-' "' 7.0--' 60.71.*/ + ',' .17".:' '0' +, (,' ,1' ("880" ,"@1')118' 6.11'
6.04' 72 !' ' 8' "8' 92".*/ -2(,' "-' ,1' +"-// -' 8:11:' ! D1! 1.' ', "8'
0',1.-' '0', "@1'@"!2")!1' 8-2!"'1:' 5 1(1-'06' 860.4 "' 083 -2(,/=', 027,'
28:1.' -041' ! 4 '"' 08-/ "-' +1' -11' 6.04' ', 1' :*--11/= -' , -' .14".D/'
', "' 8' "8(18"' 41-' ', 1.1' +1.1' 80')027, " -!"@1-' "4087' ', 1' C.11D-?'
',18"12-/ @ ' 5 ' N ' (' . -'0'!1' +02!:' ,"@1' 7."8'1:' ', -/)2"'
,"@1' "8-+1.1:/', "' ', 1' 51.-08-' 41"8" 8' ', 1' 0(. "8' ." : ' 08' +1.1'
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>' (*!";/5'

AA ((0.: 87' '0' 2-1) 2-' 2" + ',' .17".:' '0' "!!' ',1-1' :"'1-'
', 1.1' ".1' (08'.": ('0.*' -'"'1418'-3 "8:' +1' ,"@1' ."' ', 1.' '0' (,00-1'
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=32) +' +393' + 33' < 32 ' /+232*' /' '39' =3 3')4*<'
7*' 3?' '*' 2')32<73 ' =+'/+' 6 4@2@)(' /456 3+3*?3?' +3' '
:47 ' /4)4*'39' 9'5')2 ' 4' +3' 4*3' =+'/+' 3A'9 3?' 254*<' +3'
/+232*9' .

)32' =29' @7') ' @(' +3' +4/232*9' =+3*' :)('*<' : 45'
D779 ' =+')3' (@2 '9' =29' 2 ' +3' +'<+ +' 4:' +3 ' 64=3 ' 4*'
2' /429 ' =+3 3' +3(' /47)?' *4 ' +2;3' 93)3?' =' +47 ' +3'
0)32;3' 4:' +3' (@2 ' 39')32' '9' 352 E2@)3' *4 ' :4 ' 2*('
=2 9' @7 ' :4 ' ' 9' 6 4:47*?' +'*E3 9' 2*?' :4 ' +3' 63/7)'2 '
<44?' :4 7*3' =+'/+' 6 4 3/ 3?' ' ' =+3*' +3' 4 +3 ' 33E'
/' '39' 4*' +'9' /429 ' :3))' '* 4' +3' +2*?9' 4:' +3' 7/2*'2*9'
' =29' +3' 4*)(' 4*3' +2 ' +3)?' 47 ' @3 =33*' 3264)'9' 2*?'
+3<'75 ' +3' 452*9' 3963/ 3?' ' G' 2*?' +3')29 ' 53*C
'4*' =3' :'*?' 4:' ' ' '9' 2' 6)329'*<' 4*3<29' +3' @' +6)2/3' 4:'
+3' '*<3*'479' 2 '79 ' . . *4 +3 ' 32)'3 ' @4?(' 4:' :7<' ';39'
: 45' 4*'2 ' +3' 4)46+4*'2*9' 4:' ' '9 ' 9335' 4' +2;3')';3?'
'*' 6 4963 ' (' =+')3' 7*?3 ' +3' 6 4 3/ '4*' 4:' (@2 '9' 2*?'
4' +2;3' @33*' ?39 4(3?' 2: 3 ' +3' :2)' 4:' +3' '6 4 3/ 399

+3')2 39 ' 33E' /4)4*(' 4*' +'9' /429 ' =29' +7 '' '
2' /4554*' 93)353*' 4:' +3' =+4)3' 33E' *2 '4*$ =+'/+'
+47<+' ' ' ?'?' *4 ' 52E3' 76' :4 ' +3')499' 4:' (@2 '9' 2 C
2'*3?' 4' < 32 ' 35 '*3*/3' 2*?' 64=3 ' ' /476)3' 4:' <3C
*3 2 '4*9' 2: 3 =2 ?' */4*2' =29' :47*?3?' :7 +3 ' 76' +3'
? '2 '/ ' 3' +3 ' @(' 9453' (2/792*9' :)('*<' : 45' +3' '
(2* 9' 4 ' @(' +493' (2* 9' +3593);39$ =+4' 6)2* 3?'
33E' /4)4*'39' 2 ' 992' 2*?' ? '2 ' 2*?' 63 +269' 2 ' 'B'
927 75')

+3' :47*?3 9' 4:' +3' 33E' /4)4*'39' ?'?' *4 ' <4' :4 +'
)'E3' +3' :' 9 ' 3=B *<)2*?3 9' =' +' +3' ' =';39' 2*?' /+')C
? 3*' :4 ' +3' 92E3' 4:')';'*<'*' : 33?45' 25'?' :4 39 9' =+'/+'
+3(' +2?' 4' /)32 ' @3:4 3' +35 ' +3(' =3 3' 549)(' 7*C
52 '3?' : 33@44 3 9' =+4' =4*' +3593);39' =';39' =' +'
+3' ' 9=4 ?9' 3*/3' +3' ' 649 3 ' (' =3 3' 2' 5 'A ' 2/3'
)'E3' +3' ?39/3*?2* 9' 4:' +3' / 792?3 9' '*' 2)39 '*3' 2*?'
(6 79' 2*?' +493' 4:' +3' 62*'9+' /4*R73 4 9' '*' 53 '/2

+3 ' :3))'»JB -K ?39 7/ '4*!' >-]'ßJ +'9 3A 24 ?'*2 (' /' (' ='*/+'+29' '*/7 3?' 4,06 4@ '75' 6 4+9+)(!B2) 4<3 +3 ' 7*C 53 ' 3?' 4 ' 2 ' !2))' 3 * 9 57/+'B3A2J3 2 3? !=29')'3' P:' 9 !' 353?'2@)3' P4''*?!J979 2'*3?' @(h' 2<*2'. 23/'2' ' =29' :4))4=3/"+(!' '+3' @ 44?,' 3;4)7 '4*J' '*' =+):/+' 4C 4*' =4 3' ' 93):' 47 ' +3' 732*'2*9' 52?3' +3' ' 26632 C 2*/3' 2*?' 96 32?' 4;3 ' 3*4 '2B 7 ' : 45' +3' ?2(' =+3*' +3' 3)?3 ' #'4*(9'79' 3* 3 3?' 2)(' 29' 2' /4*R73 4 ' +' 9 C '*<' :4 ' ;3*<32*/3' /2)25' '39' 2*?' 5'93 '39' :3))' 764*' +3' 2)'4 9' =' +47 ' 53297 3!' 6 JB3*?' 4 ' 62793' % 45' +2 ' '53' :4 +' 4' 793' +3' 3A6 399'4*' 4:' 2' 33E' +'9 4 '2*' +3' 7*:4 7*2 3' 4=*9' 4:' 2<*2' 23/'2' =3 3' 49 ' @(' 2' /7 3*' 4' 2*?' : 4!' : 45' +3' +2*?9' 4:' +3' 7/2*'2*9' 4 ' 4:' +3' 7 '2*9' '* 4' +493' 4:' :/' (2/792*' (2* 9' 4' @3')2'?' =29 3' @(' +3' :4 53 ' 4 ' 4' 97::3 ' +3' 7'*479' 6 4 3/ '4*' 4:' +3')2 3 ' +'/+' 4:' +393' :' '39' =3 3' 9 '))' 97@9'9 '*<' 2*?' =+2 ' =29' +3' ' /4*?' '4*' =+3*' +3' 4C 52*9' /4 '*<' '*' +3' /+2 2/ 3 ' 4:' 6 4 3/ 4 9' @3<2*' 4' '* 3 :3 3' '*' +3' 2::2' 9' 4:' +393' 3<'4*9' ' 9+2)' 3)2 3' =+3*' ' 32/+' +2 ' 62 ' 4:' 5(' +'9 4 (' *' +'9' <3*3 2)' 97 ;3(' 4:' 2*/'3*' 2)(' ' ' 93353?' 4' 53' +2 ' 2' ;'3=' 4:' +3' ' 4 '<'*' 47<+' 4' @3' <';3*' 2*?' +2 ' 2' :3=' 352 E9' 4*' +3' ' 63/7)'2 ' /+2 2/ 3 ' =47)?' *4 ' @3' 5 '96)2/3?6 3)93' +3' ' 9 4 (' '9' 62)(' 2*' '*?363*?3*' 4*3' '*' 62 ' @3)4*<9' 4' +3' <3*3 2)' +'9 4 (' 4:')'3' 33E' *2 '4* +393' 33E9' 2 ')329' '*' 9453' 4:' +3' /' '39')32 *' ;2 '479' +'*<9' : 45' +3' *2 ';3' 2)'2*9' =+4' =3 3' 2?5' 3?' 4' +3' ' : 2*/+'93' 4 ' =+4' ?=3)' 254*<9' +35$' 97/+' 29' +3' ' 9(9 35' 4:' =3'<+ 9' 2*?' 4:' 53*97 2 '4*52*(' =4 ?9' 4:' +3' ')2*<72<39' 2*?' 3;3*' 9453' 4:' +3' ' :4 59' 4:

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;3 9':'/2 '4*ˢ 2*?ˢ 643 (ˢ *ˢ +3ˢ 4 +3 ˢ +2*?ˢ +3(ˢ ?':'+93?ˢ +3' ˢ 2 9ˢ 2*?ˢ)' 3 2 7 3ˢ '*ˢ +3ˢ 63*'*97)2ˢ :2 ˢ @3(4*?ˢ +3ˢ /47* '39ˢ '*ˢ +3' ˢ '5 53?'2 3ˢ *3'<+@47 +44?ˢ (ˢ +3ˢ 6'Bˢ /2*9ˢ +3ˢ 793ˢ 4:ˢ +3' ˢ)2*<72<3ˢ =29ˢ 2?46 3?ˢ 3;3*ˢ :4 B/';')ˢ 67 64939

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' ' +393 =4 *2 '4*9 7*?3 ' 4*3 +32?' *4 ' 4 '* '52 3 2*(' 2::'*' (' @3 =33*' +35 ' @7 ' @3/2793 @4 +' =3 3 2)'E3 7*/4**3/ 3?' 94 :2 ' 29 =3 E*4=' 2 ')329 ' =' +' +3 +'9 4 (' 4:' 2)(' 7* ')' +3)2 3 ' '539 4:' +3 452*' 3B 67@+/$ 2*?' +47<+' +3(' ?=!3)' 4 +3 947 +' 4:' +3)69' +3(' ?'?' 94 4*)(' 29 @ 2*/+39 4:' *2 '4*9 ='?3)(' ?'::793?' @3(4*?' +3 @4 ?3 9 4:' 2)(' *' ;3 (' 32)(' '539 44 +3(' 9335' 4 +2;3 47/+ ' '*' +3 6)2'*' 4:' +3 4

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5'97*?3 9 44?' =+2' +3' +32 ?' 52E3' 79' 32' ' '=' +' /4*C 356' 4=' 4*' +'9' < 47*?' =3' 52('@7')?' :7 +3 $ 2*?')44E'*<' 2' ';(0@' 2//47*' 4:' +3' 93)'*<' 4:' +3' 27)9' 4*' +3' 4' *4 =' +9 2*?'*<' +3' '*?'9 '*/ *399' 4:' +'9' /4*/36C '4*9' 2*?' +3' '*/7 2@)3' /4 76 '4*9' '*' +3' 3A.II' =3' 52(' ?'9/3 *' +79' 57/+$ +2' +3' '@72*9' 2' '<7 '2*' 6346)3' =3 3'4*/3' R72 3 3?' *32' +3')2E3' 4:' 2 ?2$ 2*?' +2' +3' 2);'2*9' =+45' =3' E*4=' 4:' '*' +3' *3'<+@47 C +44?' 4:' 299')'2' +2?')'E3='93' ?=3)' 4' +3' *4 +' 4:' +3' 4$' =+3 +3' +3(' =3 3' 9 '))')';'*<' +3 3' 29' 97@,3/ 9' 4:' +3' 79/2*9' =+3*' +3' 27)9' 52?3' +3' ' 26632 2*/3$' 4' =+3 +3' +3 3' 2<2'*' 2' 6346)3' =+'/+' +2?')4*<' 9'*/3' 3' 3?' @3:4 3' +3' 79/2*9' +2?' 2*9:3 3?' ' 9' *253' 4' +3' /4*R73 4 9' +3' =+4)3' 4:' '3?54*' '*' ' 9' 6 393*' 3A 3*' =29' '*+2@' 3?' @(' +3' '<7 '2*9' 2;'2' 7*?3' +3' *253' 4:' '/'*75' =29' :47*?3?' @(' 2' '<7 '2*' '@3' +3' 23;'2*9' I\' +3*' +3('679+' :4 =2 ?' +3' ' : 4* '3' 254*<' +3' 63**'*39' '* 4' +3' 293* '*4II' 4*' +3' ?3/)'*3' 4:' +3' 79/2*9' +3(' 6 4@2@)(' 4*)(' 3/4;3 3?' =+2' +2?' @3:4 3' @33*' = 39 3?' : 45' +35' 54*<' +3' '*+2@' 2* 9' 4:' 4 9'/2' +3 3' =3 3' '<7 '2*9

*)(' +2):' 4:' '<(9 '/2' =29' 3/E4*3?' 2' 62 ' 4:' 2)(' //4 ?'*<' 4' 2' 33E' 2?' '4*' 2@47' +3' 4 '<'*' 4:' +3' '/2*'2*9' +3(' =3 3' 2*' @3 '2*' 6346)3' =+4' +2?' @33*' ? ';3*' @(' +3' '<7 '2*9' : 45' 2' ';3' /2))3?' '/2*79II' ' 2)' 3;3* 9' +3' '<7 '2*9' 2*?' @3 '2*9' =3 3' 2*/'3*)(' /4* '<7479$' =+3 329' '*' 2: 3 '539' +3(' =3 3' 62 3?' @(' +3' 27)9' 3' 2 3' 4)?' @(' /()2A' +2' : 45' +3' @4 ?3 9' 4:' @3 '2' +2' '9' : 45' +3' (3*339' 4' +3' +4*3' +3

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=4 *2 '4*9 =3 3 ?=3))'*< '* 3**'A JJ6 2*? : 45 +'9 ;3 (3<'4* ?439 +7/(?'?39 9335 4 +2;3 9766493? +2 +3 '/2*'2*9 +2? @33* ? ';3* 7 ' '9 :2 54 3 6 4C @2@)3 +2 +3 @3 '2*9 /253 : 45 +3 947 + 4: +3 (C 3*339 '* 4)4=3 2*<73?4/ 29 +3(?'? '* 4 R7' 2'*3 2*? ? 4;3 @2/E +3 '<7 '2*9 +3* +3 3) 9)4*< 2: 3 54;'*< '* 2* 46649' 3 ?' 3/ '4* 32/+ +3 9+4 3 4: +3 3?' 3 2*32* +3(44 ? 4;3 +3 '<7 '2*9 /)493 ?4=* 4 +3 /429 2*? ?=3) 29 +3 7)'*< 6346)3 254*<9 +35 '* +3 /47* (2@47 ;'<*4* 29 '9 '56)'3? @(+3 *253 4: 3) 4B '<7 '2*9 +'/+ 4: +3 '@39 254*< +3)4=3)69 =3 3 '<7 '2*9 2*? =+3 +3 +3 "4/4*B '2*9 =3 3 94 +2;3 *4 532*9 4: ?3 3 5'*'*< 7 : 45 +393 2/39 ' 9335 9 4 53 3A 353)(' 6 4@2@)3 +2 +'9 6346)3 =29 ?=3))'*< 4: (4 3 : 45 +3 (3*339 4 +3 '@3 =' + +3 3;3**39 2*? +3 3);3 '2*)69 P:4 ' 9 *4 +3 * @47*?2 (: +3' 6)2/3 '* +3 :25')(4: *2 '4*9 =3 2 3 '<*4B (2* 3 4*)(E*4= +2 +3(=3 3 *3' +3 @3 '2*9 *4 3) 9 #'4*(9'79 92(9 +3' 3A 2/ '4* =29 7*E*4=*\. 2 4 9335 9 4 +2;3 52?3 '*R7' '39 254*<9 +35 @7 4 +2;3 +32 ? *4 +'*< @3(4*? 9 4 '39 =+'/+ =3 3 3;'?3*)(< 47*?)399 2*? /)759')(:2@ '/2 3?6 +3*/3 +3 9 '<52 'H3? +35 29 '))' 3 2 3)('*< 2*? ?3/3' :7)I I *? '))' 3 2 3 +3(6 4@2@)(=3 3 +2;'*< 4 3E3 47)':3 =' + 97/+ +2 ? 4') 2*? @3'*< 7*2@)3 3;3* 4 ')) +3' 9 4*(< 47*? =' + +3 6)47<+ +3 39 4: 2 403 4?'479 6'/ 7 3 '9 B@(*4 532*9 /4*:' 53? @(4 +3 2*/'3* B= ' 3 9 * +3 /4* 2 (+3(9632E +'<+)(4: +3 '*?79 (+3 '*C ?3:2 '<2@)3 62 '3*/3 2*? +3 /4* 3* 3?*399 4: +3 '<7C '2*9 *4)399)'2* 4: +3' @4)?*399 2*? ?3A 3 ' (+3*

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2 4 = 4 3 +3 452*9 +27 4*)(,79 /456)3 37 +3 29E 4:7 97@?7'*< +35 =+'/+ +47<+ +3 /4* 39 =29 93)?45 /2 '37 4*7 @(' 54 3 +2*7 4*3 '@3 2 2 '53 +27 2E3*7 :4 (' (32 9 #7 '*< +'9 =2 +3 '* 42?9 4:7 +3 '<7 '2*9)'E3 +493 4:7 +3' 3*35'39 +27 @33*7 ;3 (' ?394)2 '*< 2*?7 / 73)6 2*?7 +3 3A2963 2 '4*7 +79 6 4?7/37 6 4@20 @)(' 5'9)37 +'5 '* 4 6 4*47*/'*< 2 93* 3*/3 94 /4* 2 (' 4 ,79 '/3

7 +3 '53 =+3*7 +3 '<7 '2*7 '@39 =3 3 4*3 @(' 4*3 97@,7<2 37 4 3A 3 5'*2 37 4 /2 '37 2=2(' : 457 +3' 547* 2'*9 4 @3 93)37 '*7 :2 ?'9 2* 6)2'*9 +3 "3*3 '2*9 =3 3 *4)399 ?'9 '*<7'9+ @(' @3' '/+39 2*?7 =2* 4:7 =2)'E3 2 ?47 +2*7 +3 '<7 '2*9 @(' +3' 640 ;3 (' 2*?7 @ 2;3 (' +3(' +27 97 3*?3 37 +3593);39 4 +3 6 4 3/ '4*7 4:7 453 =' +47 2 9 7<<)3$ 2*?7 +3(' 260 632 29 +3 97@,3/ 9 '*7 +3 '92)6'*3 =2 =' +47 47 :'*?'*< 2*(' 2//47* +4=7 +3(' @3/253 94' +3(' +27 @33*7)37 4 ='9+7 :4 :4 3'*7 6 4 3/ '4*7 @(' +3 '*/7 9'4*9 4:7 +3 27)97 +3' 2@4?39 =3 3 '*7 2 952)7 62 4:7 +3 3<'4*7 2: 3 =2 7 /2))37 "3*3 '27 '*7 +3 6)2'*7 2*?7 4*7 +3 +'))97 9/2 /3)(' 32/+'*< 4 +3 :44 4:7 +3)697 @3 =33*7 +3 '92)6'*3 27)9 2*?7 +3 :4 5'?2@)3 27 '9/2*9 4:7 4 'B /75 . +3 /4553 /'2)7 2*?7 2?'*< 96' ' 4:7 "3*'/3 '9 +3 '*+3 ' 2*/3 : 45 +3 62 3* /' (' 2 2;'75 =+'/+7 +2;'*< @33*7 :47*?3?' 2//4 ?'*< 4 2?' '4*7)4*< @3:4 3 453 @(' 9453 4,2*7 35'< 2* 9 39/263?7 7*'*,7 37 25'?7 2))7 +3 =2 9 2*?7 ?'94 ?3 9 4:7 2)(' 2 2'*3?7 4 3A 20 4 ?'*2 (' =32) +' 2*?7 '*7 +3 2<3 4:7 '@3 '79 =29 +3 :' 9 /' (' 4:7 2)(' *3A 4 453

+3 27' '4*7 2@47 * 3*4 +27 @3/453 *2 '4*2)'H3?7 254*< +3 2 2;'*39)329 +3 2//47* =+'/+ '9 /4**3/ 3?7 =' +7 ' 4:7 +3 =2 =2<3?7 @3:4 3 +3 :47*?'*<

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4: +3 /' (=' + +3 7<2*32*9 2*? +3' ' E'*< "3)3979!.JI 5 79 @3 +45396 7*<)93 ' '9 52*':39)(4: 33E 4 '<'* !@3'*< ?3 ';3? : 45 +3 /(/)'/ 643 9 =+4 4)? 4: * 3*4 09 32/+3 (2*? '*?35*' (2*? : 45 +3 *253 4: +3 3*3 '2*9 '* 26+)2<4*'2 2*(9 4 '39! 92(9 4)(@'79 2 3 3)2 3? 4: +3 "3*3 '2*9 @(+3 2<'/ 643 9 +3 /47* (2@47 +3 '?2*79 +3 9+4 39 2 +3 +32? 4: +3 ? '2 '/ =3 3 3*4=*3? '* 643 '/2) 9 4 (+'9 62 4: +2 932 @3'*< '*2//399'@)3 4* 2//45' 4: +3 '@75'2* 6' 2 39 =29 /4*9'?3 3? 3;3* @(+3)2 3 33E9 29 ;3 (?'9 2* 2*? ;29 /()2A =+4 3*4 5479)(3A2<<3 2 39 +3 3A 3* 4: +3 ? '2 '/ 67 9 +3 "3*3 '2*9 4* ' 9 329 3 * 9+4 3 2@47 +3 547 + 4: +3 '?2*79$ 6)2/'*< +2 547 +('@3(4*? +3 '**3 549 3/399 4: +3 <7): +3 /429 4: =+'/+ +3 92(9 =29 '*+2@' 3? @(+3 3)9 I I I 7 2) +47<+ +393 3<'4*9 =3 3 ;3 (2 3)(;'9' 3? @(+3 33E9 9 ') +3 46'*'4*' 4: 3 4?4 79 +2 +3 *3 '2*9 =3 3 2*))('2* 2/3J =3)) ?393 ;39 4 @3 =3'<+3? 2*? +3 3 '9 2 2 353* R7' 3 '*?363*?3* 4: ' ='*/+ *2539 2*))('2* E'*< *3 79 29 +3' 6 '*/3

  ?'::'/7) ('*?33? 9335 9 4 2 '93 : 45 47 :'*?'*< +2 4)(@'79 =+4 352 E9 +2 +3 "3*3 '2*9 ?'::3 3? @7)')3 '* /79 459 2*? ? 399 : 45 +3 3) 9 +47<+ +3 3))9 79 +3')2*<72<3 =29 *4 3) '/ ?439 *4 92(' =29))('2* (3 +'9 32 =47)? 7*?47@ 3?)(+2;3 @33* 63 :3/)(2@)3 4 ?'9 '*<7'9+ +3))('2* 4*<73 +'9 +4=3;3)32?9 79 4 /4*,3/ 7 3 +2 +3 *253 4:))('2*9 =29 3 4*3479)(266)'3? 4 +35 2*? +2 +3(52(+2;3 @33* '@7 *'2*9 7/+ 2* '*2//7 2/(=47)? @3 2 ;3 (9)'<+ 4*3 :4 3 4?4 79 +3(=3 3 4*)(9362 2 3? : 45 +3 '@75'2*9 '* #2)52 '2 @(+3 9 'B 2*9 @3:4 3 4 '/75 =29 /4*R73 3? @(+3 27)9$ 2*? 4 '/75 ' '9 3;'?3* +2? 6 3;'479)(@33* '*+2@' 3? @(

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'@7 *'2*' '@39' %4 ' +3' "'*?3)'/2*9' =3 3' '@7 *'2*9Z JG 2*?' 2@4' 52E39' 2' ?'9 '*3 '4*' @3 =33*' +35' 2*?' +3' 37*'2*9' 2*?' 3*27*'2*9' =+45' +3' /2))9')('2*9!.' "' <')Œ' =4 ?9' 44 l' 9335' ?'9 '*/)(' 4' '56)(' +2' +3' "3*3 '2*9' =3 3' '@75'2*9'G :4 ' ' ' ' ' ' # ' 579' 97 3)(' @3' +3' <42)' =+'/+' * 3*4 ' =29' 92'?' 4' +2;3' 32/+

4=' +3' 2::'*' (' @3 =33*' +3' *2539' 4:' +3' '<7 '2*9' 2*?' +3' '@75'2*9' '9' 94' /)493' +2 ' 2) +47<+' ' +2;3' @2?' *4' '* 3* '4*' 4:' 39 2@)'9+'*<' 2*(' /4**3A'4*' @3 =33*' +3' =4' *2 '4*9' 32 3?' 4:' '*' +'9' 93/ '4*' ' ' 5'<+' 93?7/3' 4*3' 4' 52E3' +3' 2 356' ' /2))' 4' 5'*?' +2' ?'3' '<(**c' =3 3' +3' 4*)(' 6346)3' =+45' 3 4?4 79' /47)?' +32' 4:' 4*' +3' @2*E9' 4:' +3' 9 3 ' @3(4*?' +3' "3*3 '2*9' 2*?' '@7 B' *'2*9 Y =+'/+' '*:4 52 '4*' 6 4@2@)(' /253' : 45' "3*3 '2*' 4 ' '@7 *'2*' 52 '*3 9 Y 2*?' +2' +3' E*3=' +'9' 4' +2;3' @33*' +3' *253':4 .53 /+2* 9' '*' '<7 '2* l ' +2' ':' +493' 52 '*3 9' 532*' 4' 92(' +2' +3(' =3 3' 2/R72'* 3?' =' +' *4*3' @7' 53 /+2* 9' : 45' +493' 62 9L' 2*?' =+2' ':' 3 4C ?4 79' ?3v'<' 3?' 4' '* '52 3' +'9L' 7' ' :)(' : 45' +3' 4/E9' 4:' +3' ' 3*9

' 2' '*9/ '6 '4*' =+'/+' '9' 2E3*' :4 ' "3*3 '2*' +3' /+2C 2/ 3' '9' 2* 2 ':'/'2)' ;2 '3 (' 4:' +3' 79/2*

1.@ 2-/ 08' 8' ' v ' @' 5' C')

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4 9'/2 @39'?3 +3 '<7 '2*9 =3 :'*? @3 '2*9Z J)'3 '/2*'2*9 44 '* '/')(=+4 =3 3 ? ';3* +2/E @(' +3 '/3)'2*9 '* 4 +3 =39 2*?947 +4:' +3 '9)2*?' 2 3 3 53? @3 '2*9 @(' 3;3 (')''9 4 '2* I ' +3 4*)(' ?'967 3 =29 29 4 +3' ' 4 '<'*2) +453 ' +3(' +3593);39 2993 3? +2 ' +3(' =3 3 2*' 2@4 '<'*2) *2 ';3 2/3 I6 2*?' '52379 ' =+4 9'?3?' =' +' +35 ' +9 ?3353?' @(' #'4?4 79.Z 4 +2;3 6 4;3?' +3 64'* ' '*/4* 4;3 '@)(' +7/(?'?39 4*' +3 4 +3 ' +2*?' 2997 39 79 ' ' =29 /3 2'*' +2 ' +3(' +2?' @33*' 3A63))3?' @(' +3 '<7 '2*9 : 45 @3 '2G 2*?' +'+9B 7 /4*/7*!3?' =' +' +'5 ' +3 649' ';3*399 ;' +' =+'/+ +7/(?'?39 6 4*47*/39 Z +'9 '9 29/3 2'*3?' 4 +3 +3 7 + ['*' +3 547 +' 4:' 97/+' 2 52*' <';39 < 32 ' =3'<+ ' 4 +3 2?' '4*9 4:' =39 3 *' 7 463 ' ' 579 ' +2;3 @33*' +493 4:' '<7 '2 4 ' '962*'2 +2 ' +3 3/3';3?' 29 ?3/'C 9';3 7 ' +3 44 5'<+ ' @3 5'9)3?' @(' +3 2@4;3B53* '4*3?' 6 3,7?'/3 2@47 ' *2 '4*2) 2::'*' '39G 2*?' 97 3)(' =+3 3 +3 9766493?' /4)4*(' '9 =' +47 ' 2*(' 9'5')2 ' 2?' '4*' +3 46'*'4*' 4:' +3 6346)3 +2 ' /)2'5 4 +2;3 <';3*' @' +' 4 ' ' /2*' 9/2 /3)(' @3 2E3*' 29 3;'?3*/3 ' "2*' (' '*' 97/+ 52 3 9 '9 ;3 (' 26 ' 4 <';3 2 @'29

+' 181("" ': 1!@ "4/ ('

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+2 ' +3)(5'2*9 =3 3 4,2*9 ' =29 ?3353? '*?7@' 2@)3 4*)(' +3 3 =29 2 2?' '4*' @(' =+'/+ 9453 +4 /'2*9 =3 3 5'A ' 76 =' + +3' ' 6 4<3*' 4 9 ' 3))2*'/79 2)4*3 @ 47<+ ' +35' : 45' 2)(

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*')'E3 52**3 ' /4)4*'H2 '4*' 52?^ 2 ?'*'2 2 7*'/ /47* (' '*' +3 62 9 7*?3 ' +3 ?45'*'4*' 4: +3 2 C +2<'*'2*9 ' : 3 ' ' +2? @33*' ' (32 9 7*?3 ' +3 4C 52*9 ' +'9 /+2 2/ 3 ' =29 9 ')) 7*2) 3 3?' 2*? +3 /';')'H3? 2 ?'*'2*9 =3 3 /4*9'?3 3? 29 43* +3 <3*7'*3 2 ?9 ' =+4 ?=3) ' '*' /2;39 ' 2*? /)4 +3? +3593);39 '*' 9E'*9 ' 52'* 2'*3? +3' ' :44 '*< '*' +3 +'<+)2*?9 ')';'*< '*' 63 63 72) :37?9 =' + +3 '*+2@' 2* 9 4: +3 /7) ';2 3? 3<'4*9 ' : +393 +3 3 =3 3 + 33 '@39 ' +3)4)22*9 4 ')'2*9 ' +3 2)2 '2*9 ' 2*? +3 4 9'/2*9 ' +3 *253 4: +3 :' 9 ' '*' 4*3 :4 5 <2;3 +3 33E9 4//29'4*' 4 '*;3* '2'9 4 (' +4=')4)279 @ 47<+ ' +'9 E'*953*' +3 +39 6'2?9 +' +3 $ '*' +3 4 +3 ' 4 933E +3 3 2<2'*' :4 ' 2 4,2*' /4)4*(' +3 :4 53 ' :2@)3 =29 6 454 3? @(' +3 3;3 3*/3 =+'/+ +3 7*'/ /4)4*(' 62'? 4! 2 ?79 ' 2 94*' 4: +3 ('2*' 3 /7)39 ' 29 ' 9 :47*?3 ' 2*? @(' +3 /4*C *3A'4*' @3 =33*')4)279 2*? 3 /7)39 '*' 2 +2<'*'2*

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5 (+4)4<(. +3 *2539 4: +3 4 +3 '@39 64'* 4 +3 2)32 '/ '9)39 2*?' 4 4 9'/2 2*?' @39'?3 +'9 52 E 4: 2* @3 '2* 6467)2 '4* 3' +3 67 3 4 5'A 254*< +3 2?' '4*9 3)2 '*< 4 ;3 (' 2*/'3* '539 =29 4*3 4: 2* @3 '2* /4)4*(' 2 4 2I!J +'9 2/3 52(' 6499'@)(' +2;3 @3/453 3A '*/ '* 2 ?'*'2 ! +2 ' ' 9+47)?' *3;3 +2;3 93)3?' 4* 2* '9)2*?' =+'/+ =29 3*/' /)3?' @(' +3 2)32 39' 4 9'/2' 2*?' '/2*'2' '9'*/ 3?'@)3' +3)4)22*9' =3 2 3 4)?' @(' 2792*'29' 3935@)3?' +3 '@(2*9 +3 2)3 4: 2 33E 93)353*' 7*?3' '9 2379! I' '9 2<2'* 2* '*?'/2 '4* 4: 3)29<'2*9 :4 ' ' =29 '* /2?'2 +2 ' +'9 94* 4: (3*3 7)3?' +493 (+3*'2*9 44! ,' =+4 =3 3 92'?' 4 +2;3 '*+2@' 3?' 2 ?'*'2 @3:4 3 +3)4)22*9' =3 3 3)29<'2*9

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K H"2-"8 "-/ "-' ")0@1' 0:0.2-/ @' ' 2('0.':1' .") !)2-/ 5' ! ')' "%2-'/ 920'1:')*' 1.@ 2-/ 08 C10.7/ ' ' !!' ',1-1' ,0+1@1.' :0)2" .151"" ',1' "((028" 06 4"?2-

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:' +3' ?'2)3/ ' 4:' +3' 2 ?'*'2*' 547* 2'*33 9' =3 3' E*4=* ' 2*?' ?'?' 32))(' 6499399' 2*(' 44 9' 4:' 2' 63/7)'2 ' /+2 2/ 3 ' ' ' 5'<+ ' 6499'@)(' + 4=')'<+ ' 4*' +3' R739 '4*' =+3 +3 ' +3(' 2 3' /4**3/ 3?' =' +' +3' @3 '2*9' 4 ' =' +' +3' '@(2*9 ' +3' 963/'53*9' 4:' +3')2*<72<3' 964E3*' '*' +3' /';')'H3?' ?'9 '/ 9' 3A+'@' ' 63/7)'2 ' '39 ' =+'/+' 2 3' 54 3' +2*' ;2 '3 '39' 4:' ?'2)3/ ' +3(' '*?'/2 3' 2' 452*/3')2*C <72<3' 4:' 2' ?'9 '*/ ' E'*?$ @7 ' *4 +'*<' 54 3

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4 52* /2* 547* 76 4 +3 :47* 2'*B+32? 4: +493 9 325 +(=+'/+ +3 '@39 4: +3 6 393* +752* 2/3 +2;3 @33* @4 *3 ?4=* ')))399 /2* 2*(3(3 6'3 /3 2/ 499 +3 /+295 =+'/+ +3 3 93;3 9 +2 4 ?3 4: +'*<9 =+3 3'* =3 2*? 47 +'9 4 (2 3 /456 '93? : 45 2* 32)'3 4*3 +2 2 6 '4:! 2/3 4: 52*E'*? +29 629 2=2('9 2 <3*3 2) 6467)2 @3+3:$ 2*? ' =29 9+2 3? 2*? /+3 '9+ @(+3 33E 6+')4946+3 9 * 4*3 64'* +4=3;3 +3(?'993* 3? : 45 +3 6346)3)2 4 2*? '9 4)3 9766493? +2 2 :3= +2? @33* 6 393 ;3?)'E3 35@3 9 : 45 +3 <3C *3 2) 7'* 2*? +2 : 45 +35 2 *3= 2/3 4: 52*E'*? 96 2*< 2*? 96 32? @(?3< 339 4;3 +3 ?394)2 3? 32 +G =+')3 @(+3 6346)3 +3 3*3=2) 4: 52*0)':3 =29 3C <2 ?3? 29 2 *3= / 32 '4* 29 =3 933 '* +3 2 4: #37C /2)'4* 2*? +3 (5'?4*9 4: ' 2/79$ 2*? +3 3A '*/ 2/3 =3 3 ?3353? 4 +2;3 @33* 3@3)9 2<2'*9 +g +32;3*)(64=3 9)3? 29 2(@(+3 /4*9/'479*399 4: +3' 3*4 5479 9 3*< + +79 +3)2 3 3=9 ? 325 4: <'2* 9 @3:4 3 +3 ?3)7<3 +79 +3 33E9 ? 325 4: +3 ' 2*9 4: +)3< 2 2*? 4: +493 =+4 63 '9+ '* +3 :)44? 4: #37C /2)'4* 4 4: <,!<39 +79 44 +3 92;2<39 4: 4 + 53 '/2 :2@)3 4: +3 52554 + +2 +3 =4)? @3'*<)2'? =29 3 @(+'5 '*;4E3? +3)'<+ *'*<9 4: +32;3* 2*? *4 '* ;2'* 2<2'*9 +3 3294*B<': 3? 54*9 3 +3 52* 4: +3 6 '5' ';3 2<3 4 2)('* ' 9 6467)2)3<3*?9 +2? +3 2562*'2* <'2* 9 =!+4 :)3? '* 4 +3 :7 +39 /4 *3 4: 39926'2 2*? @3'*< 67 973? @(+3 '*3A4 C 2@)3 /4*R73 4 @'? +3593);39 7RJ3 +3 < 47*?$ 47 4:

=+'/+ ;3*45479 '/+4 <79+ :4 +/45 5'*<)'*< =' + +3 96 '*<9 : 45 +3 *3;3 B+32)'*< =47*?9 4: +3 +7*?3 C @4) 4= :2 29 =3 2 3 : 45 9+2 '*< 97/+ 2 @3)'3: 9 ')) /2**4 :4 @32 3<2 ?'*< +3 ;'3= 2E3*' @(+3 6346)3 29 947*?3 '*' 4*3 3963/ +2*' +2 4: +3 6+')4946+3 9 +3)2 3 29975 3 2 63 '4? =+'/+ +29 *4 @3<'**'*< 2*? =+3 3'*' 4*3 2/ :4))4=9 2*4 +3 $ =+')3 +3 6346)3 2/E*4=C)3?<39 +3 / 32 '4*' 4: 52*E'*? 29 +3 @3<'**'*< 4: *3=')2=9 4:)':3C 4 93 =+'/+ 3;4)7 '4*' @3:4 3 47 3(39 9335 9 4 +2;3 @33*' +3 67 6493 =+(+3 4 <2*'/ 352'*9! 4: 32)'3 63 '4?9 +2;3 @33*' @7 '3? '*' +3 32 + +3 3 '9 *4 6 44: +2 97/+ 2 / 32 '4*' /2*' +2;3 4//7 3? 4*)(4*/3 52(+2;3 2E3*' 6)2/3 2 ='?3)(?'9 2* 364/+9 :4 +3 ?'::3 3* 2/39 4: 52*E'*? 2: 3 +3 32 + +2? @33*' 54 3 4)399 3A 3*9';3)(?394)2 3? '*' +3 /47 93 4: +493 52*(+4792*? (32 9 =+'/+ +2;3 @33*' 3R7'9' 3 4 :4 5 +3 2))7;'2))2*? 4: <(6 4: 2@()4*'2 4: 45@2 ?(2*? 4: 47'9'2*2 %4 4? ?439 *4 < 4= 4)? *4 =32 (4: / 32 '*< 4: 6 393 ;'*< 4: 3547)?'*< 2*? 2'*'*<

+3 7*':4 5 *4 '4*' +4=3;3 =29 +2 +3 '539 4: +3 < 2* 9 =3 3 *4 62 3? @(2 <7): : 45 +493 4: +3 6 393* +752*' 2/3 @7 +2 +3)2 3 < 2?72))(<2'*3? +3 7663 +2*? =+')3 +3 :4 53 3A6' 3? 29 < 2?72))(*' :2/ +3 *4 '4*' +2 2 2/3 4: <'2* 9 579 +2;3 @33*' +3 2 /+' 3/ 9 4: +3 =2))9 /4566493? 4: 3*4 5479 64)(C <4*2) @)4/E9 '*' =+2 2 3 /2))3? +3 (/)46'2*' /' '39 : 45 23*39 3 2*? 3;3*' : 45 ?32 29 :2 29)@2 '*' +3)2*? 4: +3 2 9'2*9 29 =3))' 29 4: +3 =2))9 4: ' (*9 =+'/+ 2 3 3A2/)(9'5')2 4 +35 Y 97/+ 2 *4 '4*' 9 53 3)(+3 3A6 399'4*' 4: 2 9'56)3 7*?3 9 2*?'*<' *')'E3 52**3 +3 63292* 9 '*' % '39)2*? :2*/(+3(' 933 +3 =4 E9 4: <'2* 9 '*' +493 /4)4992)' 2) 2 9 =+'/+ 4//7 4*' +3 +'<+ < 47*?9 '*' < 32 3 4)399 6 393 ;2 '4*' =+3 3;3 +3 37 4*'/ '@39 =3 3 :4 53)(93)3? 2*? < 2*' 3 @47)?3 9 2 3 :47*?

+2 +393 =2))9 2 3 *4 +3 =4 E9 4: +3 '@39 47 +'9 4 (533 9 =' + '*J 2 '75 9'*/3 +3(2 3 < 32)(

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@3(4*? +3' 64=3 9 =3 2 3 /3 2'*)(:4 /3? 4 6 4*47*/3
7 =3 579 /4* 3* 47 93);39 =' + /4*:399'*< +2 47
+'9 4 (?439 *4 32/+ @2/E :2 3*47<+ %4 +3 4*)(
?'::'/7) ('9 +2 +3 64=3 9 4: +493 '@39 =3 3 '*2?3C
R72 3 +3 79/2* =2))9 2*? +3 @7')?'*<9 4: +3
452* E'*<9 ?4 *4 ('3)? 4 +49R =4 E9 2*? 9453
3;3* 3A/33? +35 '* 52<*' 7?3 +3 2'9'*< 2*? 3C
54;'*< +3 4/EB+3=* 4@3)'9E9 =29 2 9 ')) 54 3 <'<2* '/
7*?3 2E'*< 4*3 +2 54/E9 47 53/+2*'/2) 64=3 9 9 '))
54 3 +3 3 7;'2* =2))9 2*? 42?9 44 2 3 *4)399
;29 +2* +3 (/)46'2* @7')?'*<9 7 '* +393 /2939
+3 3 '9 *4 +'*< '*/ 3?'@)3$ @3/2793 =3 E*4= +2 52*(
+4792*?9 *2(+7*? 3?9 4: +4792*?9)2@47 3? 2 29EC
=4 E 2*? +2 +3 92/ ':'/3 4:)';39 =29 *3;3 +47<+
4: +3 :4 <4 3* '@39 '* +3 /47* (4: +3 29/2*9
2*? 2 '*9 /4562 3? =' + =+493 2 /+' 3/ 7 3 +2 4:
453 7*?3 +3 3563 4 9 =29 ?'5'*7 ';3 @3)4*< 4 4
6 3/3?3 +2 63 '4? '* =+'/+ +3 33E +'9 4 '2* 4: +3
7<79 2* 2<3 2< 33'*< '* 6 '*/'6)3 =' + +3 6+')494C
6+'/2) +'9 4 '2*9 4: +3)29 /3* 7 (/4*/3';3? +2 +'9
;3 (/47* (4: +3 @4 '<'*39 /4* 2'*3? *4 +'*< @7
92;2<39 9/2 /3)(6499399'*< +3 :2/7) (4: 9633/+ +3
4::96 '*< 4: +3 7?3 (47*< 32 + *)'E3 52**3 +3
;27) 3? ? 2'*9 4: +3)2E3 46F'9 =+'/+ 2 3 /2 '3? :4
+' (9 2?'2 + 47<+ +3 94)'? 4/E 2*? +3 /)32 '*< 4:
=+'/+ 97 629 +3 64=3 4: /34 '2* '* +3 '53 4:)3AC
2*?3 =3 3 /3 2'*)(+3 =4 E 4: 2 6346)3 6 '4 4 +3
33E9

3 /7)2*75 '9 7*R739 '4*2@)(4 @3 2*E 254*< +3
/' '39 4: ;3 (< 32 2* 'R7' (=29 @7') 4* 2 @3? 4:

Ø 2. 6 8: 87 ', " ', 1 *..,18 "8 H1!"-7 "8- +1.1 145!0*1:
'0)2 !: '" 60.'.1-- 08 ', 1 (.050! - " ', 18-/ 4 7, " !1": 2- '0 (08G
I1('2.1 ', " ', 1 8"' 08 18I0*1: '" 51(2! ": (1!1). '* 60. ', - D 8: 06
".(, '1('2.1 2" 80 861.18(1 ("8)1 :."+8 6.04 ', - + ', .17".:
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,": 80 (0881; 08 + ', '"!*/ "- ,"-)118 -,1+8 8 5 X?

7:4 3A2/)(')'E3 +2 =+'/+ +29 @7 '37 ' 3*32 + +3 :4 53 '9 2 94')/4* 2'*'*< 7*3R7';4/2) 2/39 4: '))2<3 I h$ 2*7 +'9 /7) ';2 '4* @3)4*<9 4 2* 2<3 2* 3 '4 4 +3 :' 9 33E 93)353* ' '* 2)($ 9'*/3 +3 33E9 +27 *4 2?' '4*9 4: 2*(' 3 76 '4*9 : 45 "397;'79 2) +47<+ +3(' /4))3/ 3? +(' '*:3 3*/3 +2 +3 547* 2'* =29 ;4)C /2*'/

: 2 ?3 2')37 526 @3 : 253? 2//4 ?'*< 4 364 9 /2)/7)2 '4*9 2*?' @32 '*<9 ' 52(' ?3;'2 3 '* 3;3 (' 62 C '/7)2 ' : 45 2@94)7 3 <34< 26+'/2) /4 3/ *399 2*?' (3 @3 97@9 2* '2))(' 97::'/'3* 4 <';3 2 *4 '4* 4: 2 /47* (' 2*?' 3*2@)3 79 4 :4))4= +3 3;3* 9 4: ' 9 +'9 4 (' +3* /4* 2/ 3? 4 2 952)9/2)3 ' 9 ;2 '2 '4*9 : 45 2 6 3/'93)(' 2//7 2 3 4*3 52(' 9/2 /3)(' @3 63 /36 '@)3 4 '9 ' =' + 52*(' +'*<9 +2*?3? ?4=* 4 79 '* +3 +'9 4 (' 4: *2 '4*9 : +3(' 2 3 ?3 2/+ ' 45 +3' ' ?2 39 2*?' 97/+ 4 +3 64'* 9 29 2 3 549 3A6493?' 4 2 @' 2 (' 2*?' :2)9':('*< 2) 3 2 '4*9$ 2*?' ':= 3 ?4 *4 97::3 47 93);39 4 @3 ?'9C 7 @3?' @(' 62 '2) '*/4*< 7' '39 =+3 3 +3 3 '9 *4 /4*C 2?'/ '4* '* +3 52'*$ +3)'5' 9 4: 7*';3 92) +'9 4 (' =')' @3 < 32)(' 3*)2 <3?

+79 +3)3<3*?9 2*?' 2?' '4*9 /4))3/ 3?' '* +'9 '*C 4?7/ '4* ' /4*/3 *'*< +3 ;2 '479 '@39 +2 ':)47 '9+ ' '* +3 32)'39 ' '539 4: 2)(' :7 *'9+ 397) 9 =+'/+ 3*2@)3 79 4 97 ;3(' +3 549 ' '564 2* ' 7 *9 4: +3' ' ?39 '*'39 2*?' =+'/+ /2 (' 79 4* 94 :2 ' +2 ' 3;3* +3(4*?' +3)69 ' 9453 4: +3 *2 '4*2) 54;353* 9 '* +3 =39 ' 2*?' *4 + 4: 7 463 /453 =' +'* 47 ';'?3*'*<+4 'H4*

'3 3)29<'2*9 Y 7*?3 ' =+'/+ <3*3 2) *253 ' ' 93359 +2 ' '* 2)(' +3 3*4 '2*9 +3 4 <3 39 +3 '/*)'2*9 +3 (+3*'2*9 +3 37/3 '2*9 +3 #2**'2*9 +3 '@7 B *'2*9 2*?' +3 "3*3 '2*9 52(' @3 /456 3+3*?3? Y'97 C 47*?3?' +3 ? '2 '/ =' + +3' ' 6499399'4*9 29 =3)) 29 +3 I <32* ' +2 ' '+3 4: +35 =+'/+)3: ' 9 *253 4 +3 4=3 32 +2;'*< ?=3) 2)4*< ' 9 =+4)3 /429 ' 76 2

/4*9'?3 2@)3 =2(' '* 4 *9/2*(' +2? 2)94 2 93)353* ' '* 2 ?'*'2' * '/')(' 44 +3)(5'2*9' 29 =3))' 29 +3 '/3)'2*9' @3)4*<3? 4 +3 9253 9 4/E' * +3 '* 3 '4 ' 4:' 7 463 +3 3)29<'2*9 =3 3 93)3? 4* +3 *4 +3 *' 9'?3 4:' +3 (4)393)69' 2*? 3A 3*?3?' 7*?3 ' +3 *253 4:' 234*'2*9 2*? 2**4*'2*9' 29 :2 ' 29 +3 #2*7@3$ +2 ' '9 4 92(' ':' +3 37/ '2*9 2*? #2 ?2*'2*9 =3 3 +3 9253 2/3' P.

+3(' 2 3 9 2*?'*<' '* +3 ;3 (' 32)'39' 2?' '4*9' 2 ' +3 9755,' 4:' +3' ' < 32 *399' +3)3<3*?9 =+'/+' 3))' 4:' +3' ' :4 7*39' 3A+'@' ' 4*)(' +3' ' ?3/)'*3 2*? :2))' 76' 3 ' +2? =3'<+3? +3' ' ?39 '*(' 2*? +2 ' 4:' +3 3))3*9$ 2*? +3 9/2)3 4:' +3 3)29<'2*9 +2? '93*' +3 :2))' 4:' 4(' =29 +3 9(5@4)' 4:' +3' ' :2 3

9 4* +3 329 B.'4:' +3 ? '2 '/' +3))('2*9 6 39' :4*;2 ? : 45' +3 *4 +' 7* ')' +3(' =3 3 /+3/E' @(' +3 547* 2'*9 4:' 6' 79$ 94 +3 79/2*9' @3'*<' ? ';3* 4*B 0(2 ? @(' +3 3) 9' 4' @(' +3 3 52*9' /253 ?4=* : 45' +3 9253 R72 3' 47' 4:' +3)69 '* 4 2)(' * +3 =39' 4:' 45@2 ?(' +3(' :47*? +3 '<7 '2*9 32/+'*< 29 :2 ' 29 +3)2E3 4:' 2 ?2' +393 2' +2' '53 =3 3 4*3 4:' +3 < 32' *2 '4*9 4:' 7 463' 6499399'*< +3 /47* (' : 45' +3*/3 4 +3 :44' 4:' +3 (3*339¢ @3:4 3 +'9 +3(' +2? 2)94 '*+2@' 3? 79/2*(' +3(' *4=' 3' 3? : 45' +3 6)2'*9 4* +3 *4 +' 4:' +3 4' @3+'*? +3 '/'*79 2*? '* 4 +3 63**'*39' +3 '*;2?3 9' 67 97'*<' +3' ' /4*R739 9' 3A63))3? +3 5@ '2*9' @4 +' 47' 4:' 45@2 ?(' 947 +' 4:' +3 4' 2*? : 45' +3 '*)2*? 62 ' 4:' *4 +3 *' 79/2*(' % 45' +3 932/429 ' 2*? +3 947 +' 4:' 7 '2' 2?;2*/'*< 29 :2 ' 29 +3 '@3 ' +3(' ? 4;3 +3 (+3*'2*' 3)29<'2*9' +'9)'5'' +3(' 32/+' 2@47' +3 63 '4? =+'/+' =3 52 E 29 +3 :' 9' +' ? 4:' +3 93/4*? /3* 7 (' 4:' 453' +3 '567)93 4:' +3 79/2*' ' 76 '4*' 93 '*' 54 '4*' 2)' +3 *2 '4*9 +3*' '*+2@' '*< +3 /47* (' : 45' +3 4 4 +3 9755'' 4:' +3 63**'*39' 2*? :4 /3? +3 29/2*9 2*? 9/2*9' 6 39' 4*=2 ? @(' +3 2@'*39' 764*' +3 '/3)'2*9' 9 +3 3)29<'2*9 4*' +3 (+3*'2*

k

932 =3 3 3A63))3? 4 97@,7<2 3? 94 +3' 4 +3 '@39 3A63 '3*/3? +3 9253 :2 3 '* 3*4 '2 : 45 +3 33E9 '* #27*'2 : 45 +3 9/2*9 +'<+3 76 2)4*< +3 ? '2 '/ : 45 +3 2@3))'2*9 2*? 5@ '2*9 +3 /4* '*73? 6 4C < 399 4: +3 2@3))'2*9 97@93R73*)(4//29'4*3? +3 7B 94*'2* 6'/2*9 4 2 2/E +3 2 '*9 2 6346)3 96 7*< : 45 2* 32)'3 35'< 2 '4* 4: 4 +3 '@39 @3)4*<'*< 4 +3' 4=* 2/3 +3 :7 +3 /+2*<39 ?4 +4 3R7' 3 2 9752 (

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n ‘ ‘ ‘ ‘ &‘ %

‘ ‘ 7 *‘ =' +‘ 6)3297 3‘ 4=2 ?‘ 5 (‘ 6 463 ‘ 52 E‘ : 45‘ +3‘ =32 '9453‘ 29E‘ 4:‘ <)32*'*<‘ ?3 2/+ ‘ 2*?‘ 549)(‘ 7*'564 2* ‘ +'* 9‘ : @*/35'*<‘ +3‘ 2)'2*‘ *2 '4*9‘ 2*?‘ ‘ 3 ' 3‘ : 45‘ +3‘ 93?7/ ';3‘ '567)93‘ 4‘ ?';'*3‘ +3‘ *2 7 3‘ 4:‘ +'*<9‘ <4*3‘ @(‘ 2*?‘ :4 <4 3* ‘ @(‘ 2‘ /4* '*72))(‘ 3*3=3?‘ 3A25'*2 '4*‘ 4:‘ +393‘ 4: 3*‘ 7*/3 2'*‘ : 2<53* 9‘ &3 ‘ ‘ 579‘ 9 '))‘)'*<3 ‘ 2‘ =+')3‘ 4*‘ < 47*?‘ 4:‘ +3‘ 9253‘ E'*?‘ =' +‘ +3‘ 549‘ '*93/7 3‘ 62 ‘ 4:‘ +2 ‘ ‘ +2;3‘ ,79 ‘ R7' 3?‘ @7 ‘ <'B47*?‘ @3)4*<'*<‘ 3993* '2))(‘ 4‘ 453‘ 2*?‘ 4;3 ‘ =+'/+‘ 47 ‘ 42?‘ 579 ‘ *33?9‘ 6299‘ 4‘ +3‘ 5 (+'/2)‘ 62 ‘ 4:‘ 452*‘ 9 4 ($ 2‘ J2 ‘ =+'/+‘ 579 ‘@3‘ E36 ‘ 9362 2 3‘ @7 ‘ 52(‘ *4 ‘@3‘ 3A/)7?3?

:‘ +3‘ 4@,3/ ‘ 4:‘ 2*‘ '* ;39 '<2 '4*‘ /4* /3 *'*<‘ +3‘ 4,2*‘ /4)4*(‘ '*‘ 2 '75‘ =3 3‘ 4‘ ?3/'?3‘ =' +‘ +'9 4 '/2)‘ 6 4@2C @')' (‘ @(‘ 532*9‘ 4:‘ ?' 3/ ‘ 2*?‘ /' /759 2* '2)‘ 3;'?3*/3 ‘ =+3 +3 ‘ 97/+‘ 2‘ /4)4*(‘ 2/ 72))(‘ 93)3?‘ 4*‘ +2 ‘ /429 ‘ 2‘ 6 7?3* ‘ '*R7' 3 ‘ =47)?‘ ?3/)'73‘ ' ‘ 3‘ =47)?‘ ?335' ' ‘ 2@97 ?‘ 4‘ 3A63/ ‘ 2*(‘ 39 '54*'39‘ =' +‘ 3<2 ?‘ 4‘ 2*‘ 3;3* ‘ :';3‘ +7*? 3?‘ (32 9‘ 2* 3/3?3* ‘ 4‘ +3‘ '53‘ =+3*‘ 2))‘ '9‘ 9 '))‘ :2@7)479‘ 2*?‘ 643 '/2)‘ '*‘ +3‘ +'9 4 (‘ 4:‘ 453‘ +2 ‘ 2/39‘ 44‘ /47)?‘ +2;3‘ @33*‘ 6 393 ;3?‘ 4‘ 9766)(‘ +3‘ 6)2/3‘ 4:‘ 3;'?3*/3 ‘ =+'/+‘ 4@;'479)(‘ /2**4 ‘ 6499'@)(‘ 3A'9 L‘ %4 ‘ +3‘ 4,2*9‘ =' +‘ '*329‘ 3;3*‘ 2//4 ?'*<‘ 4‘ +3‘ 2//47* ‘ =+'/+‘ 299'<*9‘ +35‘ +3‘ < 32 39‘ '564 2*/3‘ =3 3‘ *4 ‘ 2*‘ '55'< 2 '*<‘ '@3‘ 97/+‘ 29‘ =47)?‘ 2) 3 ‘ +3‘ 6346)3‘ ' ‘ 7*' 3?

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=' +' 2*?' '56 399f ' 9f /+2 2/ 3 ' ?'9 '*/)(' 4*' +3f *3=' :4 52 '4*' *' +3f 32)'39 ' 452*' *2 2 ';3f +3(' 2 3f 3C 6 393* 3?f 29f +3f / 3=' 4:' 2f 9'*<)3f 9+'6G 2*?f 3;3*' '*' +3f)2 3 ' =+'/+' 5'<+ ')32?f 79f 4')44E' :4 ' 2f 9453=+2 ')2 <3 ' *75@3 ' +3(' 2 3f 9 ')' *4' 54 3f +2*' 2f 952)' @2*?' :4 ' =+45' +3f :'3)?9f 4:' 4*3f ;'))2<3f =3 3f 97::'/'3* ' +3 3f @3'*<' *4' 2/3f 4:' 97/+' 2f 93)353* ' 4f @3f :47*?f '*' 2 '75' 2' +4792*?f (32 9f 2: 3 =2 ?' =47)?f @3f *4' 6 44:' +2 ' +3f 9 2*<3 9f ?'?f *4 ' /453f +' +3

+3f 32)' 4@,3/ ' 4:' +'9f '*;39 '<2 '4*' '9' 4' 52E3f 47 ' =+3 +3 ' +3f 4,2*')3<3*?f =29f 2*/'3* ' 2*?f +45396 7*<' 4 ' =+3 +3 ' +3f 2 '*9f 2?46 3?f ' ' : 45' +3f 33E9$ 2*?f =+3 +3 ' ' 9f 4 '<'*' /2*' @3f 3A6)2'*3?' 39'?39f ' ' '9f =4 +' =+')3f 4' /4 3/ ' +3f 63/*)'2 ' :32 7 39f 4:' +3f 32)'39 ' 452*' 2//47* 9' =+'/+' 2 3f ;3 (')')3f E*4=*

3 ' *4*3f)44E' 4*' +'9f '*R7' (' =' +' 9/4 *' : 45' +'*EC '*<' +2 ')'4*' 44' =29f 2' :2@)3' 2*?f +2 ' 2' ;4(2<3f '* 4' +3f 7*E*4=*' 39 ' =29f '56499'@)3' ' '9f 73' +3f 4,2*' =2 ' @3)4*<9f 4' +3f 3<'4*' 4:' :2@)3' 94' +2 ' =3f /2**4 ' 6'/E' 47 ' 2*(' 4*3f 4:' ' 9f '*/'?3* 9f 29f 54 3f 4 ')399f 6 4C @2@)3f +2*' +3f 39 G (3 ' 7*?3*'2@)(' ' ' +2?f 2f +'9 4 '/2)' :47*?2 '4*' +2 ' +3f '?9f =3 3f E'*<9f 4:' +3f 3)4C 64**3979' '9f 7*R739 '4*2@)3' 4 ' /2*' +3f ;4(2<3f 4' 2 '75' @3f 3 53?f '56499'@)3G :4 ' +3f @4)?*399f 4:' 52C '*3 9f '9f @(' *4' 532*9f /+3/E ' @(' +3f '563 :3/ ' /4*?' '4*' 4:' +3' ' ;3993)9G *4 ' '9f +3' ' E*4=)3?<3f 4:' ?'9 2* ' 3<'4*9f 4' @3f 53297 3?f @(' +3f *4 '4*9f 4:' +3' ' /47* (53*' =+4f 9 2(' 2 ' +453' '*' 2*' 2<3f =' +47 ' @44E9' 4 ' 5269' 4 ' 53*' 4:')32 *'*<' J

+3f 9 4 (' +2 ' +3f 4,2*9f =3 3f *4 ' 3* ' 3)(' ?39 4(3?f 2 ' +3f :2))' 4:' 4(' @7 ' +2 ' 2f 62 ' 4:' +35' 97 ;';3?' 2*?f +2 ' +'9f 35*2* ' =29f <4;3 *3?f @(')'3f +4793f 4:' J*329 ' '9f 29f 4)?f 29f +3f 453 '/' 64359' 73' ' ' @(' *4' 532*9f :4))4=9f : 45' +'9' +2 ' +3f)3<3*?f =+'/+' 52E39f +3f ?3C 9/3*?2* 9f 4:' ' *329f 7)3f 4;3 ' 35'< 2* 9f 2 ' 2f ?'9 2*/3f : 45' 4(' =29f 3R72))(' 4)?G =3f /2*' 4*)(' 92(' +3 3f '9f *4' /4* 2?'/ '4*' @3 =33*' +3f =4'))' +2 ' '9f 3A6 39

643 ' 4: ')3 79 ' 9)' ' *4 =2(:4))4=9 ' +2 ' +3 ?'? *4 ' 3A3 /'93 +'9 =4* 3?)'/3*/3 ' '* 6'/E'*< 47 ' =+2 ' +3 6)3293? : 45 +3 9 4 '39 '* 4 +3 ' 6435 9 4* +3 :2)) 4: 4(

#'4*(9'79 ?439 *4 ' 9335 4 +2;3 @33* 2/R72'* 3? =' + '92*?3 ' 4 ' =' + +3)('/2) 6435 4: 39'/+4 79 4* +3 ?39 7/ '4* 4:)'4* ' : =3 2 3 4 @3)'3;3 +3 2//47* ' +2 ' "' <') :4 53? +3 93/4*? @44E 4: +3 *3'? 3* ' 3)(4* +3 54?3) 4: '92*?3 !9 36'/ 6435 Z I =3 +3* E*4= +2 ' +3)2 3 ' 92*<' +4= J *329 2: 3 ' +3 :2)) 4: +3 /' (52?3 +'9 39/263 =' +' 2 62 ' 4: +3 4C ,2*9 ' 2*?)3: ' +'9 +453$ 2*? +2 ' 44 *4 ' 29 2 2' 4 ' *4 ' + 47<+ +3 /)353*/(4: +3 <';39 ' 7 ' =3 2 3 *4 ' =2 2* 3? '* ? 2='*< 2*(/4*/)79'4*9 29 4 2 :7 +3 ' /4'*/'?3*/3 @3 =33* +'9 9 4 (2*? "' <')09 ' +3 2<3 4: '92*?3 ' ':' +3 =29 +3 25' 232* '9 R7' 3 '*?3 3 5 '*2 3 ')('*< @3 =33* +2 ' 4: 39'4? 2*? +3 +' (B +' ?)(5C 6'2?

39'/+4 79 +4=3;3 ' 92*< 4: +3 35'< 2 '4* 4: *329 ' 2)549 ' '* +3 9253 =2(29 " ' <')G :4 ' +3 36 393* 2 '4*9 4* +3)'2/ 2@)3 9335 ' 3* ')3? 4 /4*:'?3*/3 ' * +35 ' =3 :'*? +3 +3 4 6 393 ;'*< +'9 :2 +3 ' 2*? +3 +4)(+'*<9 ' Y '=' + @7 ' 9)'<+ ' ;2 '2 '4*9 : 45 " ' <')09 ?39/ '6 '4* Y ' 2*? 35+2 E'*< =' + +'9 :4))4=3 9 :4 ' 3963 '2 ' 39'C /+4 79 ' =+4 ?'3? '* +3 :': (B9'A +)(56'2?')';3? '* +3)2 3 ' +2): 4: +3 93/4*? /3* 7 (') : 45 +3 ;2<73 2//47* ' +2 ' *329)3? 9453 4,2*9 '* 4 3963 '2 ' 4 +'9 :47*?'*< 2 /4)4*('* 2 '75 ' +3 3 '9 /3 2'*)(2 ='?3 9 36G 2*? ' ' '9 ;3 (?47@ :7) =+3 +3 ' 39'/+4 79 32/+ ' +'9 3A 353)'5 ' * / '*79 2 ')329 ' +'9 /+'3: 3A6)4' ' =29 92;'*< +3 2))2?'75 ' 54*< +3 +4)(+'*<9 44 53* '4*3? @(39'/+4 79 ' +'9 =3 52(@3 97 3 =29 +3 549 ' 6 3/'479 3297 3 ' 7 ' +'9 2))2?'75 ' +3 33E9 @3)'3;3? =29 6 393 ;3? '* +3 4,2* /4)4*(2 ' ' '9 '*

"5.0) 2-/ "'2.8/ @ ' * - 8(08(1 @")!1 ' , "* "(.0) 2- -,02!: , "@1 '"D18 H -"8:1.06 "."8:"/ "- , "-)118 (08I1('2.1:/ 60. 0!:1.' , "8 .7 ! 6 ,1.1/ "- 2-2"!/ ,1 +"- 41.1!* " (045 !1./ ' ,1 7."4 4". "8 ,1 (05 1:6.04 ! @1: -' !! 81".1.' '0' , 1 "71 06 U@1.2-

3*4 '2$ 4* +3 9253 /429 =+3 3 +3(6)2* 37 94 52*(
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2 2<2 '2 +3 ()'2*9 2 3 264* 75 ' '9 44 =29
'* 3963 '2$ 2*7 +3 :' 9 33E9 =+4 92*< 4:2 4,2*
35'< 2 '4* 4 3963 '2 /2* 9/2 /3)(+2;3 299'<*37 ' 2
54 3 ?'9 2* <42) 7 +3 *253 4: '93*79 '* 39'B
/+4 79 7*)399 ' @3 2* 2??' '4* 4* +3)'2/ 2@)3 '*C
93 37 47 4:" ' <') ?3/'?37)(64'* 9 4 +3 4=3 32
+3 4 +3 33E 27 +4 ' '39 R74 37 @(#'4*(9'79 =3
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4 :'A +3 I53 =+3* +g 2 '*9 =3 3 :' 9 964E3* 4:@(
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(+'2* 4 2/)39 2*7 +3 3964*939 4: +3 '@())'*3 @44E9'
'9 2 6'3/3 4: +2 9763 9 ' '479 ':)'*< @(=+'/+ +3 94
4: 3* 6 4;4E39 79 6 2*7 +3 27 +4 ' ('9 7 3)(=4 +)399$
9'*/3 +3 4)7 452* '@())'*3 @44E9 +27 63 '9+ 2*7
+493 '* /' /7)2 '4* 254*< +3 33E9 =^ 3 = 3 /+37
'5649 7 39
3 <' +39 4* 547* ?2 =29 +3 4*)(37/ '2* 4=*
+2 352'*37 2: 3 +3 , 4)'2* '*;29'4* 2*7 2 3 B
<J +'2* *253? 36+2)4* = 4 3 +3 +'9 4 (4: +'9 *2 '4*
* +'9 +3 3)2 3?' +2 I *329 53 3)( )3? +3 4,2*9
29 :2 29 2))3*3 4* +3 /429 4: + 2/3$ +2 +3 ?'37
+3 3 2: 3 :47*?'*< +3 /' (4: I *32$ 2*7 +2 4579
4*3 4:+'9 :47 94*9 @7') 453 2)4*< =' + +'9 :2 +3 09
:4))4=3 9 '* +3 93/4*7 <3*3 2 '4* 2: 3 +3 2E'*< 4:
4(.. 3'*< 2 37/ '2* +'9 = ' 3 09 39 '54*('9
;3 ('* 3 39 '*< =47)7 @3 4: +3 +'<+39 '564 2*/3
':+3 3A6 399'4* 4: #'4*(9'79 =+4 /2))9 +'5 Z 2 ;3 (
2*/'3* +'9 4 '2)K .I [/47)7 @3 2E3*)' 3 2))(6 7 +3 26C
6)'39 +3 9253 36' +3 4 * '4/+79 =+4 =29 54 3 3/3*
+2* 3 4?4 79 3 +2;3 *4 '<+ +3 3:4 3 4 299753

1.0:0'2-/ @ @ A 08*- 2-/ ZF B
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XB

+2 36+2)4*=29 4)?3 +2*+3:4 53 +2 '9 +2*+3:' 9 +2):4: +3:47 +/3* 7 (

+3 3A'9 3*/3 4:4 +3 4,2*/4)4*'39 '* +3 9253 R72 3 =29 3<2 ?3? @(+3 33E9 4: +2 /3* 7 (29 +'9 4 '/2))(/3 2'* 3))2*'/79 '*?33? 52?3 +3)(8 5'2*9 /453 4;3 4 '/')(: 45 2)(2*? 6 3/3?3 +3 '/3)'2*9 29 '*+2@' 2* 9 4: +3 '9)2*? G @7 +7/(?'?39 *4 ?47@ :4))4='*< * '4/+79 9 2 39 +2 +3(=3 3 4C ,2*9 '* 3 5'A =' +/ 9453 +4/'2*9 =+4 =3 3 /29 29+4 3 +3 3 4* +3' 3 7 *: 'B45 k0 4(JZ /()2A 44 /2))9 +35 4,2*9 3*/3 +3 3 /2* @3 *4 R739 '4* +2 ':+7/(?'?39 2*? +3 33E9 4: +'9 2<3 +2? +32 ? 3)4: 2 4,2*/4)4*(4* +3 '@3 +3(=47)? *4 +2;3 933* 2*(+'*< 97 6 '9'*< '* '

' +'* 2 /3* 7 (4: +'9 '53 64))4?4 79 4: 3)2 +3 /4* 3564 2 (4: 3*2*?3 3 53? 4579 +3 94* 4: *329 2*? 2;'*'2.J : 3 +3 5'??)3 4: +3 :': +/3* 7 (2))'29 299753? +2 +3 4,2*9 +2? 93)3? '* 2 '75 2*? 7*' 3? =' + +3 @4 '<'*39 =+'/+ +3 '*?'/2 3? @(+3 52 '2<3 4: 452 =' + E'*< 2 '*79 44* 2: 3 =2 ? (+79 / 49 4;3 '* 4 2)(2*? +3 3(39 4: 2)*2 '4*9 =3 3 7 *3? 4=2 ? 453 +3 *4C '4* 3A6 39 @(2792*'29 +2 (+79 :3) +'593): /2))3? 764* 29 2 ?39/3*?2* 4: 2/79 4 =2<3 =2 2<2'*9 +3 649 3 '(4: +3 4,2*9J. =29 ;3 (6 4@2@)(@4 4=3? : 45 9453 /4* 3564 2 (= ' 3 $: 45 '3 4*(579 4 '52/79 +3)2 3 =+4 = 4 3 4: +2;'*< +32 ? : 45 +3 6346)3 4: 2;'*'75 +2 +3 '52<39 4: +3 4,2*

$ 08*-2-/ '-114-"!-0"-6 ,1 ,":80" (08:2('1: '! 1 .0I"8-28:1. 81"-)1*08: ,1 (028'.* 06 ',1 .2-"1"8- 8 H"! !181/ ',"" "/ '0 ',1'0+8 06 [81" 11 08*-2-/

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V M20'1:)* 1-'2-/@ 04"4'?',1 +0.:-".1 -":!* (0..25'

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<4?9 =3 3 6 393 ;3? '* +3 92*/ 72 (' 4: +3' ' 356)3Z B 52'* 2'*3? +2 ' +3 4,2* 4 '<'*' 4: +3 452*9 =29 649' ';3)(' /3 2'* ' * 3*?32;47 '*< 4 <3 ' 3;'?3*/3 :4 ' ' +3 =29 ?3)7?3? @(')'3 :2*/':7)*399 =+'/+ 4: 3* ;'C 9' 3? +'5 ' '* 4 '52<'*'*< +2 ' +3 923 ':'/3 4: +3 / 4C @3 ' +4 93 =29 2 5354 '2) 4: +3 ?39 7/ '4*' 4: 4(' @(' +3 =44?3*' +4 93 % 45 +2 ' '53 :4 =2 ? +3 @3)'3: '*' +3 4,2*' /4)4*(' =29 7*';3 92) 254*< +3 33E9 ' *' +3 :' 9 ' +2): 4: +3 *3A ' /3* 7 (' ' ' =29 6 4:39 ' @(' 2 49 +3*39 .' ' '9 2 53 3 2//'?3* ' +2 ' =3 +2;3 *4 33E =4 E '*' =+'/+ ' ' '9 3A6 39 ' 54 3 2*/'3* ' +2*' (/46+ 4*0 2992*? 2 ' ' 3*' 2@47 ' m

7 ' 2)4*<' =' + +'9 +3 3 =29 2*4 +3 ')3<3*? /7 3* ' 254*< +3 33E9$ +2 ' +3 2 '*9 =3 3 4*3 4:)'3 9/2 C 3 3?' 2*/'3* ' /4)4*'39 :47*?3? @(' 33E /29 2=2(9 2: 3 ' +3 4,2* =2 C =+'/+ /4)4*'39 +3(' 9766493? 4 +2;3)49 ' +3' ' /4**3A'4*' =' + +3' ' 54 +3 B/47* (' 2*? @33*' 39 2*<3?' : 45' ' ' 4 +'9 /)299 ' '*' +3 947 +' 4: 2)(' +3 :' 9 ' /' (' 4: 3 264* 75 ' 3 3 2 ' 2*? 6' ' =3 3 /4*/3';3? 4 @3)4*<' ' /3'' =+'/+ =29 7*':4 5)(' 2E3*

08*- 27/ ' NB

U ,"' ', -' 80' 08/ + ',' +, (,' +1 +1.1 "(92" 8'1:' ', .027,' H!2'". (,/ M2"1-' ' 04 ' ('FB/ "8:' 1-'2-/ @ ' ('0)1.' 1922-/ 0+1-' '-' 0. 7 8 '0 4(12-/ -' (!1".' 80+' 6.04 ', 1 ;(1.5'" :1 -18'18' -/ 5 ' 1:' " !/ +, 1.1 ', 1 "'''"(D 4" :1 08 , 4)*' H0!*) 2-' -' 52)G ! -, 8 2 -'"'1 @1.*' 42(,' 62!!1.' ', "8 8 ', 1 0!:' 1: ' 08-? '&- ' S.1":' * +&' ' ! o % ,' ' - ' +"L @ S51. , "5-' % "' .' ' "' / "' ' S 8-1. " ' O ' #+ ' 1' +" $". " ' O L'0! # ("' ' + ' ' ((' # ' + ' ' + ' + 2+ "' ' ' . ' 3 4 ' ' +1 "' ' ') ' ' # ' & 5 ' ') ' . & % ' H!2'". (,/ +, 18 .1(0. : 87 ', -' 8718 02-' 1;5!"8"' 08/ "-' " +"-' :1! @1.1:')*' '-' "2', 0.-/ + '1-' ', "' ', 1 04"8-' +02!:' :0 ', -' "-' ' ' ' % & ' # 6 7 ' 0 ', "' , 1 5.0)")!* 6028:' ', -' ! 81' 8 4"-2-3 "8:' " 42-" ', 18)1!087 '0 "' 501" +, 0/ (045"."' @1!*' -51"D 87/ +"-' 06 (08G - :1.")!1 "8' 92 '*

Y' 1.@ 2-/ 08 I 8 ' B

A' ' '60 !' ,1 "2', 0.' ,"-' : -(2-" ', 1 "71' 06 *(05, .08 2 , -' 6X1 81' (X'. XB18/ 55 ' ' F !' A

@(' +3' 33E9' :4 ' +3' '9)2*?' B4:' ' /3 ' 2*?' =29' +79' 2' 6)2/3' 4:' '* 3 39 ' 3;3*' 4' 52 '*3 9 ' =+4' 3/4<*'H3?' +3' < 2;3' 4:')63*4 ' '*' 2' 6)2/3' 4;3 < 4=*' =' +' ?=2 :' 5(C)39 Y '=+3 329' +3' 39 ' 4:' 2 '75 ' =29' 92'?' 4' 6 4?7/3' 4*)(' 9 2*?2 ?90J. Y @ 47<+ ' +3' *253' 4:')(9939' '* 4' +393' 62 9 ' 39'4?' /2))9' 2 '*79' 2*?' +'9' @ 4 +3 ' ! <*79' +3' 94*9' 4:')(9939' 2*?' ' /3 ' 2*?' +3' 94;3 2'*9' 4:' +3' 3*4=*3?' (+3*'2*90J' 3 ' =3' 933 ' E*3=' *4C +'*<' 4:' 3)3<4*79 ' =+4' =29' *253?' '*' +3' 445 ' 4:' +493' @ 4 +3 9' '*' 4 +3 ' :2@)39$' :2@)39' 2* 3 '4 ' 4' 46+4C /)39. ' 2*?' 2?46 3?' @(' +3')2 3 ' 452*' 643 9 ' 2*?' @(' +3' 79/7)2*9 ' +3 3;3 ' 2 '*79 ' 4 ' 4579 ' 4 ' 452 ' 2 3' 964E3*' 4:' 29' ?39/3*?3?' : 45')(9939' 4 ' 3)352/+79[' +3' 532*'*< 4:' +3' :2@)3' '9' +3' 9253 ' 7 ' +'9' *4 '4*' 4:' 2' 33E' 4 '<'*' '9')'E3='93' :47*?' =' +47 ' 2*(' 53* '4*' 4:')(9939 ' '9 4)3' 3)2 3?0\' +2 ' 9453' /+932*9 ' 4*' +3' ' 3 7 *' : 45' 4(' =3 3' /29 ' @(' 35639 9' 4*' +3' /429 ' 4:' 2 '75 ' 2' ?'9 '/ ' 4:' 6'/2$ +2 ' =+3*' +3(')2*?3?' 4' ='* 3 ' +3 3 ' +3' /26 ';3' 4,2*' =453*' 93 ' :' 3' 4' +3' '9+'69$ 2*?' +2 ' +'9' /4563 3?' +35 ' 4' 93)3' '*' +493' 62 9 ' +3' 9253' 9 4 (' =29' 3632 3?' @(' 3 2B' /)'?39' 35@79 ' 94')2 3' 29' 2: 3 ' +3' (32 ' m G' 2*?' 2))' =+4 ' @3:4 3' +3' 9'A +' /3* 7 (' /2))3?' 453' 2' 33E' /' (' 2*?' +3' 452*9' 33E9 ' 579 ' +2;3' 2?46 3?' ;'3=9' 97@C 9 2* '2))(' +3' 9253

4=' ' ' 9335 9' /)32 ' 4' 53 ' +2 ' +3' 32)'39 ' 33E' 2?' '4*' 4:' =+'/+' =3' 52(' /3 2'*)(' /4*9'?3 ' 39'4?' 29' +3' 36 393* 2 ';3' @(' 299'<*'*<' 2 '75 ' 4')(9939' 2*?' +'9' ?39/3*?2* 9 ' 3A/)7?39' +3' 4,2*9' : 45 ' ' G' =+')3' 2' ;3 (' 2*/'3* ' 46'*'4* ' +3' +'9 4 '/2)' ;2)73' 4:' =+'/+' ' 52(')32;3' 4' 39 ' 4*' ' 9' 4=*' 53 ' 9 ' @ 47<+ ' +35 ' 2)4*<

,105,."-'2-/ -' ' H!"8'/' @ ' F ' (*!";/ 5 ' '

+' ,10708 ' @@ ' ' !! !

A' 11' ',1' 5"--"71-' 920'1:' "4087' ',1' 6."7418'-' 06' ',1' '8.5" '

' 11' ',1' !"''1.' 5".' 06' ',1' -1(' 08' 08' ',1' 028: 87' 06' 041 '

K M20'1:')*' 08*- 2-/ ' B

='+' +3' 92/ 3?' 3297 39' +3(' +2?' 92;3?' 4' +3' ' '9' :' 94' +3' 6 4@2@')' (' '9' +2 ' 94')4*<' 29')'3' 2))2?'75' =29' @3)'3;3?' 4' @3' 6 393 ;3?' +3 3' +2 ' '9' 7* ')' 2E'*<' 4:' ' '9' @(' +3')4*'2*9' 2@47' +3' (32 'k ' *4:'**<' =29' 3' +3 ' 92'?' 4 ' 97*<' 254*<' +3' 33E9' 47/+'*<' 2' 54 3' ?'9 2*' 5'< 2 '4*' 4:' +3' 63 94*9' =+4' 39/263?' : 45' +3' :)2539' 4:')'4*' 7 ' ' 36)2/32@)3' 92/ 3?' 3297 39')'E3' +3' 2))2?'75' ':' +3(' 2 3')49 ' 2 3' <3*3 2))(' <';3*' 47' 4' +2;3' /453' 4')'<+' 2<2'*' 9453=+3 3' 3)93G' 2*?' +3*' ' 4: 3*' +2663*9' +2 ' 93;3 2)' 2 3' 93 ' 76' 29' +3' 73' 4*3' +79' 2' :2;4 2@)3' +32 '*<' 5'<+' @3' <2'*3?' :4 ' +3')3<3*?' +2 ' J*329' 44E' 3:7<3' =' +' +3' <4?9' 4:' 4(' '*' 62 9' :2 ' 54 3' 354 3' +2*' +3' ' '9' =+3 3' +3(' =3 3' 9 '))' 6 393 ;3?' 4' 2' 37/ '2*' 97/+' 2' 364 ' =29' 549 ' 2//36 2@)3G 2*?' +3' =47)?' :33)' 2' 63/7)'2 ' '*C 3 39' '*' 9 3*< +3*'*<' +3' 46'*'4*' +2 ' 2' <3 5' 4:' +'9' 2/3' +2?' 2E3*' 44 ' '*' 2' ?'9 2* ' 3<'4*' 2*?' +2 ' 2' *3=' 6346)3' =29' 96 '*<'*<' 76' : 45' '

!' +2 ' ?'9 2 ' 3J4*' +4=3;3 ' 579 ')'3' 364 ' +2;3' +2?' ' 9' '93' %4 ' =+2 3;3 ' 793')32 *3?' 452*9' '*' +3' 2<3' 4:' 7<79 79' 5'<+' 52E3' 4:' 33E' 643 9' 4' 9+3=' +2 ' +3' 2?' '4*' =29' 32)(' E*4=*' 4' +3' 33E9' 2*?' +3 3@(' 4' 39 2@)'9+' ' 9' * +$ 9 '))' ' '=47)?' @3' 3A 353)(' '56 4@2@)3' +2 ' 2' @3)'3:' 2?46 3?' @(' +3' =+4)3' *2 '4*' /4*/3 *'*<' ' 9' 4=*' 4 '<'*' 9+47)?' +2;3' @33*' @4 4=3?' : 45' 2@ 42?$ 3;3*' ':' ' /47)?' @3' 2/3?' : 45' 97/+' 64359' 29' =3 3' <3*3 2))(' E*4=*' +'9' +4=3;3 ' '9' @(' *4' 532*9' +3' /293' +3 3' 29' =' +' +3' :2@)3' +2 ')(9939' /253' 4' 2 '75 ' +3')2 3 ' ' ' '9' 329(' 4' 933' =29' :49 3 3?' @(' +3' /' /759 2*/3' +2 ' +3' +4793' 4:')'3' 25')'' ' =+'/+' =29' 2*96)2* 3?' 4' 453' : 45' 79/7)75 ' =+3 3' +3(' +2?' @33*' 6 '*/39' ?3?7/3?' ' 9')'*32<3' + 47<+' 3)3<4*79' : 45' ' /3' @4;3' 2))' '9' ' ' '56 4@2@)3' +2 ' 2' @3)'3:' 4:' +'9' E'*?' 9+47)?' @3' 4:' :4 3'*' 4 '<'*' =+3*' ' ' '9' 3/4<C *'H3?' @(' +3' 9 2 3$ @(' 2' 9 2 3' 44' 94' 6 47?' 2*?' 94' /4*C 356 7479' 4=2 ?' 3;3 (' +'*<' :4 3'*' 29' 453' :' ' 9' +2;'*<' @33*' 94' 3/4<*'H3?' =3' :'*?' 352 E2@)3' 6 44:9' '*

F

4 3;3 +3 9)'<+ 39 +'9 4 '/2) '564 2*/3 9+47)?
='9+ 4 R7' +3 97@,3/ 7 +3 =+4 @ '*<9 :4 =2 ?
'*R7' '39 4: +'9 94 '9 93)?45 63 5' 3? 4 ?3/)'*3 3AC
6 399'*< +'9 9796'/'4* ': +3 +29 4*3 3;3* =+3 3 *4 +7C
52* 92<2/' (/2* 2 ';3 2 2 ?3/'9';3 94)7 '4*$ 29 '9 +3
/293 =' + +3 R739 '4* =+2 /2* +2;3 @33* +3 4 '<'* 4:
+'9 2?' '4* +3 :4))4='*< +(64 +39'9 '9 =' + 53 *4
2 ?3963 2 3 2 356 4 :'*? 9453 =2(4: 39/26'*< : 45
2 ?'::'/7) (G ' '9 5(/4*;'/ '4*G (3 =' +47 97/+ 2
3/399' (4: 9632E'< 9+47)?@3 9')3*
;3 (+'*< =3 :'*? 4 @7')? 764* '* +3 4)? 5(+4C
)4<'/2) 9 4 '39 =' + 2 ;'3;U 4 ?'9/4;3 '*< +3 2::'*' '39 4:
*2 '4*9 '*?'/2 39 +2 =+'/+ 3A'9 3?@3 =33* +3 4,2*9
2*? +3 3)29<'2* '@39$ +3 /2?'2*9 I.. +3 6' 4 9. I
+3 3*4 '2*9 .I @7 54 3 3963/'2))(+3 (+3*'2*
3)29<'2*9 #2 ?2*79 /4539 : 45 +3 /' (4: 4 (+79
4 254 + 2/3 2*? : 45 +3*/3 4 +3 '54'9 4 (+79
'* " ' J) '9 2 (+3*'2* 2//4 ?'*< 4 3))2*'/79 2*?
36+2)4* 2 .0I"'8 . +'9 '* 3 /+2*<3 +3 3A63?' '4*
4: +3 4,2*9 4 2 '75 2*? 2562*'2 2*? +3 =2*?3 C
'*<9 4: +3 (+3*'2*9 4 35*49 5@ 79 2*? +3 3)C
)3964* 52(92:3)(@3 '* 3 6 3 3? 29 ?39'<*2 '*< *4 ''*<
54 3 +2* *2 '4*2) 2::'*' (+2 +3 3*2 39 2 2B
; *'75 =3 3 +3 <4?9 4: 254 + 2/3 =29 2* 46'*'4*
2)549 7*';3 92))(3/3';3?$ 94 57/+ 94 +2 '/79
+47<+ +3 ?'? *4 /4* 4;3 +3 9 4 (2@47 +3 5'< 2C
'4* 4: 8 *329 6 4*47*/3? +2 +3 3*2 39 +2? @33*
@ 47<+ : 45 +2 '9)2*? .I +3 254 + 2/'2*9 44)'E3
+3)'2*9 2 3 92'? 4 +2;3 @33* 3/4<*'H3? 29 +3 E'*9C
53* 4: +3 452* 6346)3 =+'/+ 9 2 353* 579 3:3

AV ".:"82- "((0.: 87 '0 081 '.": ' 08 -5."87 6.04 .(": '"
S 08*- 2-/ ' N #? 81"- ".. @1- 8 .(": "
P 1!182- -1''!1-/ "8: 81"- -'"*-/ 8 $5 .2- >
H0! 124 08 ', 1 . - -)2 !")*' ', 1 .0I"8-
H".',18 2-/ P (,0! 1.08 08 N= !! B B
0 1.@ 2-/ 08 8 8 ? %8:1 "40',."(1- (078"' 04"80
.24 1--1 : (28'2.

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4 53 3)(4 2@3)'3:3 3 2'*3?@(' '*?';'?72)9 @7 4 4*3 2/E*4=)3?<3?@(+3 <4;3 *53* % 45 +'9 /455A5' (4: 3)'<'4* 2*? 4:)'*32<3 ' 5'<+ 3*973 +2 54 3 +2* 4*3 @ 2*/+ 4: +3 *2 '4* 9+47)?/2))+3593);39 4,2*9 2*?@@29 4:@3'*< 2 /4)4*(6499399'*< +3 4,2* 92/ 3?3297 39 39/73?@(+35 : 45 ?39 7/ '4* %4 52*(<3*3 2 '4*9 2: 3 +3(+2?@4=3?7*?3 +3 (4E3 4: +3@2 @2 '2*9 (+3*'2*9 =47)?9 ')+'9' +3 +4)( )2*?4: 254 + 2/36 2*? +3 3 3 4?4 79 52(+2;3 +32 ?/'C H3*9 4: 4 4*2 2*?)2/'2 /4*;3 9'*<$ +3 3 2;'*'2*9 2*? 3 <' +'2*9 52(+2;3 57 72))(2=2E3*3?2*?9 3*< +C 3*3?+3 /4*;'/ '4* 4: +3' 'E'*? 3? + 47<+ +3' '/4554* 2*/39 4 'J*329 +3 9763 '4 (52'* 2'*3?@(+3 3C)'<'4* 4: +3 (+3*'2*9 2*?@(+3 2 59 4: +3 29/2*9 =+3* +3 =4 *2 '4*9 7*' 3?' '9 '56)'3?'* +3)'*3 @ 1J # &4*)( )'2 2 '*79 +'593): '9 4@3 /4*9'?3 3?29 2 (+3*'2* +3 4,2* ?39/3* 4: +3)(5'2*9 =29 *4)399 /)32)(3/4<*'H3?+2* +2 4: +3 /4)4*('* 2 '75 4 =29 +2 4: +3 2*/'3* ' ' 39 4: 4)'375

@3)'3: 4: +'9 94 ?439 *4 2E3)4*< 4 @3/453 2 *2 '4*2) 4*3 '* 96' 3 4: +3 549 4@;'479 :2/ 9 2*? +3 /)32 39 +'9 4 '/2) 6 44:3$ 2*? +3* +4792*?9 =47)?@3 32?(4 9+3?@)44? :4 ' ' +3(=+4 ='9+ 4 '* 4?7/3 ' *33?@7 3))6346)3 47*?)(+2 ' ' '9 =+2 +3' :4 3:2)'3 9 E*3= 2*? @3)'3;3?4*)(+3 @3)'3:+2? @33* *3<)3/ 3? 2*? +2? 97*E '* 4 4@)';'4*

+3)3<3*? =29 2) 3 3? '* 2 ;2 '3 (4: =2(9 ;3* '563 :3/ 2/39 4: ' 9 32)'39 :4 5 @3:4 3 ' 3A63 '3*/3? +3 /4554* :2 3 4: @3'*< 2?7) 3 2 3? '* 4 2 2)3 4: 9453C +'*< +'9 4 '/2))(6499'@)3 ?352*? 2 6)2/3 '* 2 +'9 4 (4: 453

23;'79 3)2 3? ' ' '* 2* 36'94?3 4: +'9 6435 4* +3 7*'/=2 4: =+'/+: 2<53* 9 2*? *4 '/39 2 3 6 393 ;3?..

YK ,1 6."7418'-.161..1:'0 4"*)1 6028: 8 1.4"88J- !16 418'"": 0('. 41'. ("1// F 5 N F 60 !?=

4)0.24

' '9 3;'?3* ' +2 ' +3 44 ')'E3 / '*79 2*? 46+4/)39 ' 52?3 */+'939 2*? '*329 R7' ' +3 /' (' @3:4 3 ' ' =29 2E3* B +3' ' =';39 629 + 47<+ +3 <2 3 '* +3 *'<+ ' =' + +3' ' +32?9 57::)3?' '* 32 9 G 52*(' :4))4= +3' ' 3A2 5 6)3G (3 ' ' *329 :47*? 445 :4 ' +'9 2'* '* 2 9'*<)3 "3993)' =+'/+ 3 /7 (' @7') ' :4 ' +'5 ' +3 53* '4* 4: 4/+(2 9+3=9 +2 ' +3 2562*'2* 643 ' 2//4562*'3? +3 35'< 2* 9 4 +3 3 5 4:' +3' ' ;4(2<3 ' +3 ;'/'99' 7?39 =+'/+ "' C <') 52E39 +35 629 + 47<+ @3:4 3 +3(' 32/+ ' ' 9335 '* +3 52'* 4 @3 @4 4=3?: 45 23;'79 ' 3 E*4= +2 ' +3 35639 ' =+'/+ '* +'5 44 2997 3?)(' =29 2'93? @(' 7*4 +3 /456)2'* ' 4: "3*79 4 76' 3 ' 2*? +3 6 4C 5'939 4: +3 :7 7 3 =' +' =+'/+ +3 /4*94)39 +3 :4*? <4?C ?399 ' =3 3 '5' 2 '4*9 4: 5;'79 ' +2;3 *4 ?47@ ' +2 ' +3 +E3='93 @ 47<+ ' '*329 4 2 +2<3C : 45 +'5 /4539 +3 *253 4: #'?40 9'9 3 ' **2 ' 579 ' /3 2'*)(' @3 +3 7*'/ 6 '*/399 ' =+4 ' ' ' ' " ' $ ' 12 ' E ' & 2*? ' ' '9 3A/33?'*<)(' 6 4@2@)3 +2 ' +3 44 +2? 2) 32?(' ?3?7/3? +3 4 '<'* 4: +3 *2 '4*2) 3*5 ' (' : 45 +3 ' :2 3 +3 9+'3)? 4: '*329 '9 /3 2'*)(' 2 :'/ '4* =+'/+ 5'<+ ' 32?')(' @3 97<<39 3? @(' +2 ' 4: /+'))39C 9 '))' ' '9 2 ')329 ' +E3)(' +2 ' +3 9+'3)? 36 393* '*< +3 =2 ' 4: +3 <'2* 9 '* +3 6435 ' 4: 2,;'79 ' =29 2* 32)'3 ' 9'5')2 ' 266)'/2 '4* 4: +3 453 '/ /4*/36 '4* 4 +3 9253 +3 4

* "2 40 9 4 (' +3 ?':)/ 3* ' 62 9 @4 3 +3 52 E 4: 947 /39 2*? '539 4 2))(' ?'::3 3* ' :' 2 *4;3)' E'*? '9 +3 39/263 4: *329 4 +3 /' 2?3)' 2*? +'9 @3'*< 2))4=3? @(' +3 /26' 7)2 '4* 4 ?362 ' =' +' 29 57/+ 29 32/+ 52* /2* /2 (Z!$ =+3 3764* ' '*9 32? 4: +'9 3297 39 ' +3 @32 9

' 4)0.24 2;0.1- 80('2 .0 '" :1 S.1":' .0 ": # 1;)"8" "5 ')2- 051.' -/ 6!18'1-/ ,128'1- "4)"1 !"(. 4 - (24 42!' - ' 0.24 -11'" 4 -19228'2. 42!' ' 40.'"!1- ' =)!"8:1 1 :0('1 51.(08'"'/ 181"- 920 5"('0 .0 "2 ' 2.)14 ! 921. ' ' +' 08*- 2- 4 ;1- 25 ', - -'0.* + ',' ', "' 06 .(' 4 -

4: +'9 :2 +3 =+4 +2? @33* 62 2)(93? @( )'<+ *'*< 2*?
J2: 3 =2 ? =+3* +3 33E9 '* 2?5' 2 '4* 2 +'9 ?33?
< 2* +'5 2 93/4*? /+4'/3 +3 /)2(2*? 9 4*3 '52<39 4:
+3 <4?9$ '* +4*47 4: =+'/+ ;' 73 +3(63 5' +'5 4
2E3 2=2(=+45 2*? =+2 943;3 +3 =') '* 92:3 (
:32 7 3 @3)4*<'*< 4 +3 2*/'3*)3<3*? 2*? 35'*?'*<
79 4: +493 4: 9'2 '9 +2 +3 54 *'*< 9 2 /4* '*73?
;'9'@)3 4 +3 4,2*9 2)) ?2( )4*< ?7 '*< +3' ;4(2<3
2*? ?'926632 3? =+3* +3(32/+ +3' ?39 '*2 '4* 4*
+3 253* '*3 9+4 3 * 7*E*4=* 27 +4 299'<*3?
:47 (32 9 :4 +3 3 5 4: +'9 ;4(2<3 I J (+3 4E3*
,79 53* '4*3?' 2*? @(+3 :7):')53* 4: +3 #4?4*32*
4 2/)3 =+3* +'9 +7*< (@2*? =3 3 ?3;47 '*< +3
+3 @9 4* =+'/+ +3(+2? 96 32? +3' 9/2* (532)
d *329 3/4<*'H3?)'3)2*? 2))4 3? 4 +'5 @(:2 3. I
//4 ?'*< 4 2 4 d *329 2*? */+'939 8:4 +3 44
32/+ +3 6 45'9)2*?D <2;3 +3 *253 4: 4(.0 4
+3' :' 9 93)353* G +'9 ?'? *4 9 2*? =+3 3 2;'*'75
=29 2: 3 =2 ? @7') 3*/3:4 =2 ? =3 52(?'9/4;3
2/39 4: +3 9 4 (29 ' =29 4)? '* +3 -) 2 'B
79 < 2 3? k ,7<3 9 4 +3 4,2*9 3 3 +3 532C
97 3 4: 2 6)3@3'2* +'?3 4:)2*? '9 /2 '3? @2/E 4 +3
:' 9 4 '<'* 4: +3 2 '* *2 '4*'$ 2*? ' '9 '* '52 3? +2
+3 3 =3 3 @7 2 +7*? 3? 4,2*9 +3 +2 54*(@3C
=33* +3 *2 ';39 2*? +3 9 2*<3 9 =29 ?'9 7 @3? @(
+3 =47*?'*< 4: 2 :2;4 '3 9 2< @3)4*<'*< 4 '*< 2B
'*79 7579. I 6 '*/3 4: +3 7 7)'2*9 4: ?32
7*' 3? +'9 2 59 =' + +'5 2<2'*9 +3 @2 3? :4 3'*3 9

+J 1.@ 2-/ 08 8 N N3 "8: ',1 1.081-1 (,0! "-'/ 08
B B/ +,1.1 +1 -,02!: 1 I "8:
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Y 1.@ 2-/ 08 8 F Y 1.@ 2-/ 08 x8 8 N
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Y -8"41 -80', 87 1!-1 ',"8 " "' 8 60.4 06 *..,182-?
-11 ")0@1/ 5 ,1 "' ("8 4"82-(. 5 -,1+- '," 08*- 2-/
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7 ' +3' *2 ';39' =3 3' ?3:32 3?' 27 3* 75' =29' 2E3*'6 2 '*79' =29' 9)2'*' 2 ' +3' 9 4 5'*<' 4:' +3' /' 2?3) I J6' 2*?' 2;'*'2' @3/253' +3' 6 'H3' 4:' +3' /4*R73 4 ' +3' 6'/ 7 3' 29' ? 2=*' '*' 54 3' 3:'*3?' 2<39' '9' : 33' : 45' +393' 5+266(' *76 '2)9' =' +' +3' 52*' @(' =+493' 2 59' +3 ' :2 +3 ' :3))'6 +3' 52 '2<3' '9' +3 3' /45@'*3?' =' +' :39 ';' '39' '*' +4*47 ' 4:' +3' 632/3'6 +47<+' "' <')' ?439' *4 ' 2))4=' +'593):')'E3' #'4*(9'79' 2*?' ';(' 4' 52E3' +3' + 32 3*3?' @2)3' <4' 4:' '*' 2*' 2))'2*/3' 2*?' 7*'4*' *' 4 +3 ' 2?' '4*9' 44' 2;'*'2' '9' +3' 53?'2 399' 4:' 2*' 2))'2*/3' =' +' :4 3'*3 9$' @3'*<' 52 '3?' '*' 4*3' 4' 3 /7)39' 7*?3 ' +3' *253' 4:' 27*2 ' +3' ?27<+ 3 ' 4:' ;2*?3 $' '*' 2*4 +3 ' 4' 4/ 79' 29' 27 '*2 ' +3' ?27<+ 3 ' 4:' +3' 3*4 '2*' E'*<' 2 '*79'6 *2(' d *329' +'593):' 52 '39' +3 ' '*' 2*4 +3 ' 7*?3 ' +3' *253' 4:' 27*2 ' +3' ?27<+ 3 ' 4:' *'79' E'*<' 4:' #3)49' .

+3' /429 ' 4:' 2 '75' '9' 2' 92*?@2*E' =+3 3' *4 +'*<' < 4=9' @7 ' :' 9$ 2*?' d *329' 5'<+ ' =3))' +3' 94 (' +2 ' +'9' :2 3' +2?' @ 47<+ ' +'5' 4' 94' 644 ' 2' /47* (I Z' 7 ' +3

1.1' "7" 8' +1', "@1' ', 1'-"41' :25! ('*' 8'.0:2(1:' 8'0' ', 1'80' 08' 06' ', 1' 4*', ("! "71-/ ', 1' *..,18 "8-' "8:' .0I"8-' (04)"' 87' 1"(,' 0', 1./ "-' ', 1' *..,18 "8-' "8:' H1!"-7 "8-/ ', 1' H1!"-7 " -' "8:' (1' ! "8-' : :' 8' 0', 1.' !1718:-' ,"*' 2.82-/ 8' ', 1' 8"41' 06' 2.82-' 1.:08 2-/ -'"' "' 8' ' -'"8*', 87')2" (1.'" 8' ,1' 5."(6 ' (1' 06' 5!"(87' "8' 28(04408' ')160.1' ', 1' ' 5.1@" !1:' 1"!*3' "8:' 2.82-' +02!:')1' ! D1' (2!2-/ 0.' y2.28(2-/)*' ', 1' - :1' 06' @1.*' 0!:' 04"8' 8"41-' 8' ', 1' "-'

, -' -'0.*' 42-*' -028:' -0' -'."871'0' ', 1' .1":1.' 06' ', 1' n81 :/ "8:' *' 42-*' -114' -0' 8(.1:)!1' ', "*' .7 !' -,02!:' ,"@1' 4":1' -2(,' "!'1."' 08-'6.04' ', 1'0!:'':" : ' 08/', "*' ' '."8-(.)1' ', 1'5"--"71-'920'1:' 6.04' "'0?' ', 1*'".1'"!!' 5.1-1.@1:')*' 1.@ 2-/=08 n 8 @ ' N ?' "'0' : ("I2;'"' "2.0!"@ 8 24' (24' 181"1'-0('5."1:"-'"71.18'/5.01! 24' (044 --24/ 8' 920' "' 82-' 0((-2-' 1-'/ 627 " 242-' 08' ' NB'? 1(28:24' "'0814 = 181"4' (24'5"'.1':' '"! "4' @18 --1/1"5.05G '1.' 8@"-0-'"7.0-'(08'." "' 824' 2.824921'5278"--1/ 8'920'5.01! 0' 51. " "' 82-3=08' ; 'B ' ? ' @1. '"'14', -'0. "1' .192 .1-/ 5. 40' 5.01! 0' 8'1.14'2-'1-" "' 82-' 8' ".(1

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8' "7.24' 4"(1.. 424' ! ''0.0- --!424921' ") 2-' "; 42-/ 920'1:')* 1.@ 2-/ 08' '*' ' '

=29 35'*?3? 4: +3 4 2/)3 +2 +'9 /4)4*(9+47)? @3 <7'?3?)'E3 +493 4: +3 2@3))'2*9 @(2** 2*'52) 4 ' 9 6 45'9 2@4?3 =+3** 2 6 3<*2* 94= ?39'<*3? :4 92/ '0 :'/3 @ 4E3)4493 2*? 39/263? 4 +3 @79+39 4** 2 54 3 : 7' :7) 35'*3*/3 3 3 ' :2 4=3? +' ((47*< 4*39 2*? +79 *4 4*)(9'<*':'3? +3 964 =+3 3 2;'7'75 =29 4 @3 @7') ' @7 2)94 +3 *75@3 4: (32 9 +2 =3 3 4 3)2693 @3:4 3)@2 @3/253 +3 /26' 2) '** ' 9 9 32? 29 =3)) +3 *75@3 4: +3 2 '** 4=*9+'69

 +3 :47*?'*< 4: 2;'7'75 +3 <4?9 <2;3 9'<*9 4: +3' 6 393*/3 +3 :4 39 4** +3 9' 3 4: +3 :7 7 3 /' (/27<+ :' 3 4: ' 93): ' =4 =29 933** @ '*'*< ? (9 '/E9 '** +'9 547 + 4 :33? +3.:)253 2** 32<)3 :2**3? ' =' + +'9 ='*<9 7 2)4*< =' + +35 /253 2)94 2 :4A +2 ?'6 ' 9 2') '** =2 3 2*? '3? 4 3A '*<7'9+ +3 :' 3 2*? ' =29 *4 ')) +3 (+2? ? ';3** +'5 2=2(93;3 2) '539 +2 +3 4 +3 =4 =3 3 2@)3 4 <3 '? 4: +'5 +'9 '*?'/2 3? +2 +3 6346)3 =+493 54 +3 /' (=29 @7')?0 '*< =47)? +2;3 +2 ? 9 7<<)39 4 39 2@)'9+ +3' 64=3 2<2'*9 ' 9 4@9 '*2 3 3*35'39 4*H3 '52<39 4: +3 + 33 :2 3? 2*'52)9 =3 3 93 76 '** +3 52 E3 6)2/3 4: 2B ;'*'75

 +3 643 '/2) 9 4 (+4= 62993 4;3 /3* 7 '39 4 +3 2<3 4: +3 79/2** ?45'*'4** '** 2 '75 4 =29 ' 94 /2 3)399 29 =3 5'<+ '*/)'*3 4 +'*E ' =+3* E*4=0 '*< *4 +'*< 4: 33E /+ 4*4)4<(' ' 6)2/3? +3 @7')?'*< 4: 453 ;3 (*32 +3 '53 4: ; *329

 7 *79 4** +'9 ?3:32 :)3? :4 97//47 4 3H3* '79 +3 79/2** E'*< 4: 23 3$ @3'*< 3* ')3? 4 3R7' 3 ' : 45 +'5 29 : 45 +'9 9763 '4)4 ? 4 =+45 +3 7B 7)'2*9 62'? +3 :' 9 B: 7' 9 ?73 4 +3 <4?9 //4 ?'*< 4 4 +3 9 +'9 =29 +3 6 '/3 +3(<2;3 :4 +'9 299'9 2*/3 ' + +'9 4;3 64=3 '*< 3*35 (' *329 :47<+ 4** +3

,1 !"''1. 8 *(05,.08 "!-0/ @@
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Y 1.1 "7" 8 - " 7.1"" 6!2('2"' 08 8 ',1 -'0.* ((0.: 87

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75'/'79' 29 E'*< 4:' +3 =+4)3 2 '*' *2 '4*' 7 *79 :3)'$ @7' +3 2 '*9 :)3?' ::'*329 6)7*<3?'* 4 +3 9 325' 2*? =29 *3;3' 933*' 54 3' '9 96' ' ' *4='93': 33 : 45' 32 +)(' /2 39' 2*? ?3':'3?' =29 2?4 3? 29 76' 3' *?'<39$ 2*? 94)4*< 29 2 3/4))3/ '4*' 4:' +3 2*/'3*' ' 39 =29 6 3C 93 ;3?' +3 452*' /4*97)9 =3*' 3;3 (' (32' =' +' +3 64* '::9' 2*? 4::3 3? 92/ ':'/3 4 +'5' 4*' +3 @2*E9 4:' +'9 ';3' : 3' +'9 @2)3 2;'*'75' =29 /)493)(' @39'3<3?' 2*? 3?7/3? 4 ?3962' $ 7* ') 76' 3' 2//36 3? 2 ;4='?3C ?'/2 '*< +3 6 4?7/3 4:' +3 *3A';'* 2<3 4 +'5' %4' +3 =+4)3 < 4= + 4:' +3 ;'*3(2 ?9 =29 ?352*?3? @(' +3 (2**(' 4:' 3H3* '79' 4' +3'' :' 9 B: 7' 9 @(' +'9 '5C 6'3 (' 29 +3 '*?'963*92@)3 /4*?' '4*' 4:' 632/3' 3 :3))' @(' +3 +2*? 4:')7)79$ Y 9/2*'79 =29 *4' '* 4?7/3? '))')2 3' 2*? 47' 4:' 33E @44E9$ Y 2*? +3 ?39/3*?2* 9 4:' 8 *329 @3/253)4 ?9 4:' 2 '75

+393 =2 9 2 3 *2 2 3? @(' "' <')' =+4 94: 3*9 =+2 C 3;3' '9 +2 9+' '*' +35' 2*? 2) 3 9 2*? 2//3)3 2 39 +3 97//399'4*' 4:' +3 3;3* 9' '*' +3)2 3' +2):' 4:' +3 *3'?' 9 /4* 3* 9 =3 3 /3 2'*)(' *2 '4*2)'6 (3' 4*3 /2*' 9/2 /3)(' @3)'3;3 +2' 3;3*' 2 452*' ':' '562 '2)' /47)?' 3/3';3 2*(' <3*7'*3 3*,4 **3*' : 45' +'9 9 4 (' 4' 79 ' ' '9 7*:4 7C *2 3)(' @7' 44 6)2'*' +4=')')3 +3 643' +29 97//33?3?' '*' 2'9'*< +3 9+2?4=(' *2539' :4' =+'/+' +3 =29 :4 /3? 4' '*;3*' /+2 2/ 3 9' '* 4')';'*< @3'*<9')'E3 +3 +3 439 4:' 453' 3 +269 ' ' '9 2 6 4@)35' =+'/+' ?3:'39 94)7 '4*

'0 1.. 2-' !"((2-' S "-' ' ."181-' 8' "' :' '; ' $"!' " # 1G _18' 2-' '00 "!!' ', 1' + 81' 60.' 1@1.' "-' ', 1' 5. (1' 06 , -' " :' 8 @ :' S "-' ' BF'60 ! # ', 1' 7.028:' 62.' ', 1' '";' -' ', 1' -"413)2" , 1' ! 4 '-' "' '0 , "!6', 1'5.0:2(1' "'0/ 8 "(.0) 2-/ ' /-"*-/ " +"-' "8 "(" 06 45 1'*/ 80" 06."5"('*? '0', 1'!"''1.'', 1'6 .-' 6.2 '-' 0661.1:' '0', 1' 70:-' +02!:' ,"@1')118 "8 8- 78 6 ("8" 0)I1(' ' 11' "!-0 H!2G '".(,/ M2"1-' ' 04' (' L

;< =$ ' >7 $?' $? @?' ' , .

Y' "' +02!:')1' :!1' '0 .151"" ', 1' @". "' 08-' 8 "(.0) 2-' "8:' @ :\/ "8:', 1' "''145'-' 06 08*- 2-' '0' 7 @1' " , -'0. (!' (0!02. 87 '0 ', 1' "66" .

4 :4 5 27 36'/ 6435 4* 2* 2 <753* = +'/+ +29 *4)';3? :4 /3* 7 '39 '* 6467)2 94*<9 2*? 2)39 29 +3 /4554* 6 463 (4: 2 *2 '4* 94 +2 +3 /(/)3 4: 9 4 '39 =+'/+ /456 '939 ' 2*? +3 63 94*9 =+4 2/ 2 62 '* ' 2 3 :25')'2 4 3;3 (4*3 997 3?)(+'9 6 4C @)35 =29 @3(4*? +3 64=3 9 4: "' <') =+493 <3*'79 =29 @2 3* '* / 32 '*< < 32 29 =29 +'9 2)3* :4 35@3))'9+'*< +2 +3 +'593): =29 /4*9/'479 4: '*9 2*? =29 /4* 3* 4 @3 < 32 '* +3 =2(' 97' 3? 4 +'9 3*?4=53* 9 '9 6 4;3? @(' +'9 6 2/ '/3 4: '5' 2 '*< 2*? @4 4='*< 2*? @(' +3 47/+39 +3 '* 3 963 939 4: +'9 3AC R7'9' 3 2*? 3A 3*9';3 3 ,J?' '4* 94 57/+ 2?5' 3? @(' +3 452*9 @7 *4= 94)')3 266 3/'2 3? 3 =+4 67 9 +'9 523 '2)9 4<3 +3)2@4 '479)(' 2*? @(' 6'3/3532) '9 2=2 3 4: +3 /+'*E9 2*? / 3;'/39 =+'/+ ;2 *'9+'*< 2*? 64)'9+'*< /4*/32) 4*)(' : 45 7*6 2/ '9 3(39$ 2*? : 45 =+'/+ +3 =4 E 4: 2 5293 '997'*< 2 4*/3 : 45 +3 547)? '9 : 33 //4 ?'*<)(' "' <') =3 52(' @3 97 3 :3) 2 5'9<';'*< +2 2)) +3 :4 3'* 4 *253* 9 =' + =+'/+ +3 =29 ?3/E'*< +'9 =4 E +47<+ +3(' 5'<+ 3* '/+ +'9 6435 =3 3 *4 +'9 4=* =32) +' 2*? +2)''9 =47)? 2)29 @3 ?'9/3 *3? @(' 649 3 ' (+3* =3 :'*? +2 *4 =' +9 2*?'*< +'9 <2))'*< /4*9/'479*399 +3 3*C ?32;47 3?' '* +'9 4=* =2(' 4 <';3 2 6435 =+'/+ +3 ?'? *4 = ' 3 4: +'9 : 33 /+4'/3 +3 +'<+39 ?3< 33 4: @327 (' +'9 +2*?9 /47)? @39 4=$ +2 +3 ?'? *4)'E3 7/2* ;2'*)(' 2*? @)'*?)(' 2::3/ 2* '*96' 2 '4* =+'/+ *2C 7 3 +2? ?3*'3? +'5$ +2 +3 ?'? *4 2))4= +'593): 4 @3 '*:2 72 3? =+3* '?4)'H3? @(' 2))' 2 47*? +'5 2*? =+3* 463 '79 92*<G

1!:/ 04"8 501'-/)". :-' 06 C.11(1/ 7 @1 +"*a
,1 ! ":')0+-')160.1 ', 1 . - 87 !"*3

+2 =+3* +3 266 42/+ 4: ?32 + =29 3)329'*< +'5 : 45 +3 @4*?9 4: /';')' 4@93 ;2*/39 +3 ='9+ 4 ?39 4(' =+2 '* +493 94)35* 5453* 9 +3 /47)? *4 @7 ;'3= =' + 92?*399 29 +3 < 47*?=4 E 4: 2 :2)93 367 2 '4*$ =3 :33)' +2 +3 '9 =4 +(' 4: 47 39 335 2*? +2 =3 47<+ 4

F "' ' A

@3' '*?7)<3* ' 4' 2)' +3' ?3:3/ 9' 4:' +'9' =4 E' +3' 53 ' ' 4:' 2' :' 9 ' 2 356 ' ?439' *4 ' 2)=2(9' 2:'@ ?' 2' 53297 3' 4:' 2' = ' 3 0' 64=3 9' "' <')0' :' 9 ' (47 +:7)' 6435' +4=3;3 ' 9+3=9' +2 ' +3' /7) ';2 3?' +'9' 2)3* 9' =' +' '*/ 3?'@)3' '*(?79 (' 2*?' +2 ' *4' :2/7) (' 3A6' 3?' '*' +'5' + 47<+' *3(<)3/ ' 7 ' ' ' '9' =+3*' +3' '9' 9632E'*<' : 45' +3' +32 ' +2 ' =3' 63 /3';3' +4=' 25'2@)3' 2*?' +'<+5'*?3?' +3' =29$' *4 ' 4*)(' '*' +3' 34 <'39 ' 2*?' '*' 2)' +'9' 6'/ 7 39' 4:' 67 3' 9 ')')':3$' '*' +3' 36'< 25' 4*' (4*0' ;'))2(' +3' 9253' ')'*<' '9' *4')399H' 2662 3* ' '*' +'9' 52**3 ' 4:' '* 4?7/'*< +3' < 32 ' 96' ' 9' +2 ' 9+'*3' '*' 452*' 9 4 (

ˢ 76' 3 ˢ 'ᵍ /4*94)'*ᵛ +3ᵍ =336'*ᵛ 54 +3 ˢ 4:ˢ '*329ˢ @(ˢ 3;32)'*ᵛ +3ᵍ :7 7 3ᵍ 4ᵍ+3 ˢ 2*?ᵍ 3))'*ᵛ +3 ˢ+4=ˢ +3ᵍ 356' 3ᵍ 4:ˢ +3 ˢ 94*ˢ 2*?ᵍ 4:ˢ +'ᵍ 649 3 ' (ˢ =2ᵍ 4ᵍ 547* ˢ : 45ᵬ 9 36ᵍ 4ᵍ 9 36ˢ '*/ 329'*ᵛ '*ˢ <)4 (ˢ 2h?ᵍ < 32 *399ˢ 76ᵍ >4 453ˢ 4ᵍ =+'/+ˢ *4ᵍ @47*?9ᵍ 4 ˢ 3 5ˢ =3 3ᵍ 299'<*3?. I I$ +3ᵍ + 33ᵍ (32 9ᵍ =+'/+ˢ +3ᵍ 6 45'939ᵍ :4 ˢ)*329ˢ 3:3 ˢ *4 ˢ 4ᵍ +3ᵍ '* 3 ;2)ˢ @3 =33*ˢ +'ᵍ)2*?'*ᵛ 2*?ᵍ +'ᵍ ?32 +ˢ @7 ˢ 4ᵍ +3ᵍ ?7 2 '4*ˢ 4:ˢ +3ᵍ)')3ᵍ 4(ˢ 4*ˢ +3ᵍ 2 I2*ˢ 9+4 3ˢ @3C :4 3ᵍ +3ᵍ =4ᵍ *2 '4*9ᵍ 7*' 3?ᵍ 2*?ᵍ @7')ˢ 2;'*'75ᶢ 2) +47<+ˢ +3ᵍ :4 53ˢ 63 '4?ᵍ =29ᵍ 2)94ᵍ 3/E4*3?ᵍ 4ᵍ 35@ 2/3ᵍ +3ᵍ 9253ᵍ *75@3ˢ 4:ˢ(32 9

+' (ˢ (32 9ᵍ 2: 3 =2 ?ᵍ +'9ᵍ 97//3994ˢ)3?ᵍ +3ᵍ 2 '*9ᵍ : 45ˢ +3ᵍ 7*+32) +(ˢ)4=ˢ < 47*?9ᵍ 4*ˢ +3ᵍ /429ˢ 4ᵍ +3ᵍ 9'?3ᵍ 4:ˢ 4* 3ᵍ 2;4ˢ : 45ˢ +3ᵍ 9755'ˢ 4:ˢ =+'/+ˢ +3ᵍ 3(3ᵍ /45C 52*?9ᵍ 2ᵍ ;'3=ˢ 54 3ᵍ 256)3ᵍ +2*ˢ +3ᵍ ?45'*'4*ˢ 4:ˢ 453ᵍ @3:4 3ᵍ +3ᵍ 25*' 3ᵍ =2 9ˢ (ˢ +3ᵍ)'<+ˢ 4:ˢ +3ᵍ 93 '*ᵛ 97*.ˢ' ˢ /2*ˢ 32/+ˢ 4 9'/2ᵍ 2*?ᵍ 2 ?'*'2$ 2*?ᵍ +3ᵍ +')ˢ =+'/+ˢ 9 ')ˢ @32 9ᵍ +3ᵍ *253ᵍ 4:ˢ ' /3ˢ)44E9ᵍ)'E3ᵍ 2*ˢ '9)2*?ᵍ @3*32 +ˢ +3ᵍ :' 9ˢ 2(9ᵍ 4:ˢ +3 ˢ +32;3*)(ˢ 9' 3ˢ +3ᵍ)'*3ᵍ 4:ˢ +3ᵍ)4*ᵛ 9 33ˢ 4:ˢ)@2ˢ 9 3 /+'*ᵛ @3 =33*ˢ +3ᵍ 547*C 2'*ˢ 2*?ᵍ +3ᵍ)2E3ˢ 52(ˢ 9 ')ˢ @3ᵍ 52?3ᵍ 47ˢ ?'9 '*/)(ᶢ 2)4*ᵛ ' 9ᵍ =+4)3ᵍ 3A 3* ˢ +3ᵍ 4/Eᵍ '9ᵍ /7ˢ 2=2(ˢ '<+ˢ ?4=*ˢ 4ᵍ +3

8ˢ ˢ N BFˢ H.0)")!*ˢ ,0+1@1.ˢ ', .11ˢ ',02-"8:ˢ *1".-ˢ +1.1ˢ "!!0''1:ˢ '0ˢ 041ˢ , -/ "((0.: 87ᵍ '0ˢ 1.@ 2-/ 08ᵍ ˢ ˢ '/ +"-ˢ 081ˢ 06ᵍ ', 1ˢ 4"8*ˢ 51. 0:-ˢ "-- 781:ˢ 60.ˢ ', 1ˢ !187',ˢ 06ᵍ "ᵐ 7.1"ᵐ *1". ˢ .04ˢ "ᵐ .027,ˢ ("!(2!"' 08ᵍ 06ᵍ ', 1ˢ 51. 0: ("!ˢ .1@0!2G ' 08-ˢ 06ᵍ ', 1ˢ ,1"@18!*ˢ)0: 1-/ ᵐ +"-ˢ -2550-1:ˢ 192"!ˢ '0ˢ "ᵐ ,28:.1:/ ' 41-ˢ ', "ᵐ 06ᵍ "'2.8ˢ , -ˢ-'"'1418ᵍ ,"-ˢ (1.'" 8!*ˢ-041ˢ6028:"' 08/ ',027,ˢ ', 1ˢ .161.18(1ˢ '0ˢ (1.0Jˢ '.1"' -1ˢ ˢ -, ˢ , ˢ .1-'-ˢ 08ᵍ "8ᵍ 0@1.- 7,'

)2E3 +393 2/39 E >52*0 3<7)2 ';3 +2*7 2 3 54 3 2*/'3* +2* 453 +3 97 :2/3 4: +3)2E3 29 ' +29 @33* 3?7/3? @(' +3 7**3))'39 :2 @3)4= +3 2*/'3* /' (+3*)@2 =29 9 2*?'*< 2*?' @3:4 3 +3 =2 3 9 9=3))3?' 4 2 7'*479 +'<+ + : 45 9453 4@9 7/ '4*9 '* +3 47)3 9 ' 579 +2;3 @33* (3)4=3 :4 ' '* +3 2<3 4:#'4?4 79 2*?' #'4*(9'79. ?7 '*< 3A 24 /+*2 (' ? 47 +9 +3 352'*9 4: 962/'479 @7')?'*<9 5'<+ @3 933* 2 +3 @4 45 +3)?' @(' +3 /45 54* 6346)3 4 @3 +3 62)2/3 4: 2* '56'479 E'*< =+'/+ +2?' @33* 9=2))4=3?' 76B: * +3 9 336 4/E +3 3 T"- *4 *33?' 4:2 =2))G +3 26C 6 42/+39 4* @4 + 9'?39 5'<+ 329')(' @3 @2 3?' 4* 3 2;4 =29 +3 26' 4)'*3 +')) 4:)@2$ ' 9 9755' 9 3C R7' 3?' 4 @3 :4 ':'3?J 4 93/7 3 +3 4=*' : 45 2@4;3G 2*?' +3 3 '9 < 32 6 4@2@')' (' '* +3 /4*,3/ 7 3 +2 29 +3 /' 2?3) 2 45 =29 ?'9 '*/ ' : 45 +3 26' 4+*3 356)3 94 +3 (= =29 +3 /' 2?3) 4:)@2 +'9 2//47* 4: +3 4 '<'* 4:)@2 9 2*?9 2*?' :2))9 =' + +3 4,2*)3<3*?' *4 +3 2?' '4* 2//4 ?'*< 4 =+'/+ 2;'*'75 =29 :47*?3?' @(' +3)@2*9 '* 7*'4* =' + +3 2 '* *2 '4* +29 @33* 4@9/7 3?' @(' ' @7 52(' 9 ')) @3 3/4<*'H3?' 3/4))3/ '4*' =29 6 393 ;3?' 254*< +3 2;'*'2*9 +2 +3' /' (' +2?' @33*' @7') '5?3 +3 94;3 2'* (' 4:)@2' @(' 9'A +7*? 3?' :25')'39 93* 47 :4 +2 67 6493 +3)3<3*?' =+'/+ '39 4 /45@'*3 +3 =4 9 4 '39 '9 @(' *4 532*9 2* '**4/3* 643 '/2) :'/ '4* @7

>' 08*- 2-/ 'B

V - 4 !"'!1718:' -' -' !! (2..18 8 ',1 81 7,)02.,00:'06 !G)"80 '-' 02'! 81-/ ' +"-' .1!"'1:' '0 081 06 ',1 '."8-!"'0.-')* "51"-"8)0* +,0 72 :1:' , 4' '0 .1-("' / ".1 "-' 60!!0+-' T ,1.1 ',1 !"D1 80+'! 1-/ ',1.1 08(1 -'00:' 7.1"" ('* 1.1/ +,18 1-2- ,. -("41 8'0 '"!*/ ,1)1771:' "!4-' 081 '00D (045"-- 08 08 , 4 ,2 "8 0!:' +04"8/ +,0 7"@1 , 4 '+0 ,"8:62!-' 06 41"! 1 ,":' ,1.' !1"@1 ',1 ('*3 -,1 0)1*1:'? ',1 ('* 8-'"8'!* -"8D3 "8:' ',1 !"D1.0-1 8 '-'5!"(1 0 -1" ',1 '.2',' 06 ',1 -'0.*)1*08:' : -G 52'1/ ',1 8".."'0.'": :1: ' ' ' '

08*- 2-/)' mk' . J2 -2'4 & 9D]@RK 9 ' ,' 2; 4' ' 6/;2B

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=29 :2@ '/2 3? =' + +3 3A6 399 . 5 = 4:!9*2E'*< 47 ' +2 '
2;'*'75 =29 +3 32)'3 ' 932 ' 4: +30 3*2 39 ' : ' 3)2 3? '
+2 ' 9/2*'79 /2 '3? 2=2(+393 <4?9 =' + +'5 ' =+3* +3 2*? 2) +'9 6346)3)3: ' 2;'*'75 @7 ' 29 +3 '52<39
='/3 R7' 3? +3' ' *3= 356)3 2: 3 ' ' 9 ?44 9 +2? @33*
/)493? ' 2*? 3 7 *3? 4 +3 :4 92E3* 4*3 '* +3 ?394)2 3
/' (' +3)@2* E'*< ('3)?3? ' 2*? 93* ' +3 9'A +7*? 3?
:25')'39 4 93)3 47*? +3' ' 92/ 3? 2@4?3

' 25 ' *4 ' @ '*<'*< :4 =2 ? 2 +(64 +39'9 ' @7 ' +3 6) ?*
397) ' 4: 7*6 3,7?'/3? 4@93 ;2 '4* ' =+3* ' 352 E +2 '
2;'*'75 ' 29 ' 9 *253 '56)'39 ' =29 +3 932 ' 4: /4*< 399
:4 ' +3 2 '*9 ' =+4 =3 3J2)94 /2))3? 2;'*39$ 29 2*'4C
'75 =29 +2 ' 4: +3)4'2*9 '* 9'2 ' +3* 2)3<3*?
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+'9 <439 :2 ' 4=2 ? <';'*< ' ' +3)44E 4: @3'*< 9453C
+'*< 54 3 +2* 2 :'/ '4* ' 3*/3 52*(' =+4 4 +3 ='93
5'<+ ' 9 ')) '*9'9 ' +2 ' +3 4,2*)3<3*? 47<+ ' *4 ' 4
@3 2@94)7 3)(3,3/ 3? ' 52(63 +269 /+2*<3 +3' ' 46'*'4* '
=+3* +3(?'9/3 * +2 ' 2;'*'2 2*? 7579 2 3 4*)(
63 94*':'/2 '4*9 4: =4 *2 '4*9 ' 2*? +2 ' 2;'*'75 =29
2 54 3 3/3* ' /' (+2*)@2 ' +3 9253 '562 '2) 4@C
93 ;2 '4* /4*;'*/39 53 ' : 45 +3 *75@3 ' 4: +3 9'A
+7*? 3? :25')'39 ' +2 ' 32/+ 4: +3 +' ( )@2* +25)3 9 '
2*? 32/+ 4: +3 +' (2 '* 4=*9 93* ' 3*$ 4 ' 2 +3 '
+2 ' 2 34**3A'4* 97@9'9 3? ' '* /4*93R73*/3 4: =+'/+ +'9
=29 /4*/3';3? 4 +2;3 @33* +3 /293

' +2;3 964E3* +3 3 4: =4 ?'9 '*/ ' 7*'4*9 ' 32/+ /4*C
9'9 '*< 4: ' (6)2/39 ' +3 =+4)3 @4?(4: =+'/+ 5'<+ ' @3
/2))3? 2 '*9 ' % 45 ' *4 ' 52E'*< +3 9253 ?'9 '*/ '4* ' +3
+'9 4 '2*9 +2;3 @33*)3? '* 4 <)2 '*< /4* 2?'/ '4*9 =' +

, " ' ,1 +0. - ' -,02! ' ,"@1)118 2-1: '0 - 78 6* ' ,1
7.1"'1- 50--)!1 824)1./ 0. " ' !1"- "@1.* 7.1" 081/ - 80 !0871.
-2.5. - 87/ +,18 +1 .16!1(08 ' ,1 6.19218 0((2..18(1 06 '+ (1 ' , .'*/
6 .- "4087 ' ,1 !)"8- "8: "' 8-/ "8: ' ',18 "4087 ' ,1 04"8- "8:
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6 @ ' ,1 2-"71/ +"-/ ' , " 60. " !087 ' 41 ' ,1 04"8 (0,0. (08- -'1:
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=+2 +3(3)93=+3 3 2997 53 4 @3 73 +3(:2*/(+2 2)) +3 2 '*9 6 4/33?3? : 45)@2' 29 /4)46'39 +3 :47*?C '*< 4:=+'/+ +3(29/ '@3? 4 2 '*79 ();'79$ +2 +393 =3 3 +3 =+493 97@5'99'4*=!29 ?352*?3?? @(+3 452** E'*<9 4** +L 6)32 4:+2;'*< 97//33?3? 4 +3 976 352/(4:)@2 2*? =29 3*:4 /3? @(2 B R7'*'79C 2*? +393 2 3 2)94 92'? 4 +2;3 /4*9'9 3? 4:+' (4=*9.II & 3 ' ' '9 R7' 3 /)32 +2 27 3* 75 2*? ?32 2//4 ?'*< 4 +3)3<3*?T4:J *329 3A'9 3?)4*< @3:4 3)@2 2) +47<+ 2;'*'75 2: 3 ' 9 6 3 3*?3? 39 4 2 '4* =29 3<2 ?3? 29 2 /6)4*(*')'E3 52**3 '@7 29 =3 933: 45 9'5')2)3<3*?9 =29 +3)? 4 @3 4)?3 +2**)@2 &3 *4@4?(' =4*)?' +2;3 ?47@ 3? +2 2))' +393 @3)4*<3? 4 +3 2*? =3 3 254*< +3' +' (' /' '39 7 +47<+ ';(' 2*? #'4*(C 9'79 /4* 2?'/ +3593);39 ' =29 *4 94 =' + +3 = ' 3 9 +3(/46'3?)'*(2: 3 3*7 53 2 '*< 2@4;3 =3* (2 '** 4=*9 4:=+'/+ *4 2/3 352'*9 97@,4'*9 2)'9 4: +3)@'2** 4=*9+'69 /4*9'9 '*< 4: +3)@2*9 2*? +' (4 +3 9 =+493 *2539 2 3 2)6+2@3 '/2))(' 2 2*<3?C 2)) +393 +3 92(9 4: (4 3 62 44E 2)4*< =' + +3 2C '*9 4: +3 :)39+ 4: +3 ;'/ '5 4** +3)@2** 547* 2*?)'E3 +35 +2;3 @3/453 3A '*/ 0I 3 3 2<2'** +3 *253 +3 J;39 +35 4:

)'10 S "' 80 *!@!0# (0!08 "1 "! 920 :1:2('"1/H. -("' 8 "551!!"' ? @*/ ".92 8 2-:14"8:-',1 .-2)4 -- 08 "-' . 7,'? 920:/ (24 0481-"' 8 ")!)" 0. 28: - 8'/ 8A10 601U1.1 '181"8'2.'920 .1-'048 -!)"8" (24 (0!08 --2 -8 04"824 (1--1 . 451. 24'? [Z 08*- 2-/4 /-51"D 87 06 2!!2- 0- ' ! 2- %8 # 5 1 % #+ ? @d 0 LU".# .0L1'- ,"',1 +.9$00 ,1.1 ".1',1 -"41 "-',1 -" -5.0@1:)*',1 5".' (!1 3

V H! 8*/ 8 F? 24 , - ('.814 8 408'1 !)"80 -0! ' "((51.1 5052! !)18-1-? !)"8 = 1-2!"8/ (18-1-/)0!"8/8 a 1!"8 $51.,"5- 8 P , 2-21'"8/G :18"'1-/ ! 0.'18-1-/ "' 8 18-1-/ 0872!"8/ "8"'11/ "(."!1-/ 2 '2(28!18-1-/ 28 18-(-/ 24 8 18-1-/ !! (2!"8/ ('2!"8/A H0%2-(8/M W P ("8/ -0!18-1-/ ' 2' 18-1-/

9632E :4 +3593);39 2*?)32;3 *4 ?47@ +2 +393 2*? *4 +3 54 3 '564 2* /' '39 =3 3 +3 +' (6)2/39 92'? 4 +2;3 @33** /4)4*'39 : 45)@2 2*(' 254*< +35 52(' 2/ 72))(' +2;3 3/3';3?)@2** /4)4*'9 9$ 29 452** /4)4*'9 9 =3 3 93* 4 +3 6)2/39 3?7/3?@(' +3 :' 9 E'*<9 '** +3 *3'<+@47 +44?4:5 453 7 4** +3 =+4)3 ' 'g 3;'?3* +2 +3 3 =29 2 ?';'9'4*)'E3 +2 4:5 +3 +' (6)3@3'2** ''@39 7*?3 +3)3<'9)2 '4** 4:5 3 ;'79 +3(=3 3 +3 @4 47<+9 4:2 : 33 /45 54*2) (

+3' 62 2E'*< 4:5 +3 :)39+5 4:5 +3 ;'/ '5 2)4*< =' +5 +3 4 +3 2 '** 9 2 39 w** +3)@2** 547* 9+3=9 +2 +3)2 3 '9 44?'** +3 9253 3)2 '4** 4)@2 29 +3(97@93 R73*)(?'?4 453 49 2997 3?)(')3(=3 3 ?363*? 3* /2* 4*9 2*?)'' (''** *75@3 '4 +4=3;3 +3 ;3 (9253 =+'/+5 2: 3 =2 ? 3* 3 3? '* 4 2 /4*:3?3 2/(=' +5 4536 +3 3 =3 3 4*)(9453 4:5 +393$ 2*? +3 *75@3 =29 52?3 76 @(93;3 2) 4:5 +3 4=*9 =+'/+5 :3)) '* 4 +3 +2*?9 4:5 +3 452*9 2*? =3 3 /4)4*'H3? 4 ?39 4(3? 97/+5 29 3?7))'2 2*? 253 '2

+79 @(')'3 6 393** '*;39 '<2 '4** =3 +2;3 <2'*3? +3 9253 /+33 '*< 397) =+'/+5 +29 3=2 ?3? +3)2@47 963* 4** 52*(' 4:5 +493 /456 '93? '** +'9 =4 E +2 =+'/+5 93353? 4 @3 2@97 ? =29 94 4*)(=)'')3 =3)44E 2 ' 9763 :'/'2))(G 2*? ' /4;3 3? 2 < 47*?=4 E 4:5 7*/4 76 3? 7 +=+'/+5 52(' @3 @ 47<+ 4)'<+ +79 +'9 4 (/ ' '/2))(' 32 3? @3/4539 57/+5 '/+3 '** :2/ 9 +2** +3 / 3?7)479 363 ' '4** 4:5 2?' '4*2)5 2)39

4 ;'9'@)3 7'*9 352'** 4:5 2*('@7')?'*< 3 3/ 3? @(' +3 2*/'3*)@2*9 :+3 356)3 4:5 76' 3 2 '2 '9 +3 ;3 (:47*?2 '4*B=2))9 +2;3 @33** ?39 4(3? =+'/+5 579

4 '(!!". / 1! 18-1-/ 181'2!"8 / '1!!18-1- ' ,"@1'08!*' "!'1.1:' ,1'528('2"'' 08)160.1'"8:'"6'1.' L ' +, (,' 8 ,1'1: ' 08-' 4 "D1-' 808-18-1'06' ,1'5"--"71/ "8:ℓ1418:1:' ' "8:'1 , ' 6 ' ,1' +,0!1' , .'** 8" 41-' 08!*' - ;' 0.' -1@18/ +, (,' ".1' ,1.1' 5. 8'1:' 8 '"! (-/0((2.' 8 ' ,1' ! -" 06' ,1' , .'** '0+8-' 7 @18)** 08*- 2-/ N / 1@18 "6'1.' ": 05' 87 ' ,1' (0..1(' 08-' 06' ,1' "' ("8 4"82-(. 5'/ ℓ"8:' ,0-1'06 "52-

6 4@2@)(' +2;3 @3)4*<3?' 4' @3' 549' 354 3' 2* 'R7' (' 54*<' +3' =4 E9' 3A3/7 3?' @(')@2' +4=3;3 ' 4*3' '9' 9 '))' +3' 947 /3 4:' @)399'*<9' 2 ' +'9' ?2(' 29' ' ' =29' :';3B2*?B' =3* (B+7*? 3?' (32 9' 2<4$ 2*?' ' ' =')' /4* '*73' 4' @3' 94' '563 '9+2@)(' 7 ' +3' 6 393* ' <3*3 2 '4*' +2;3' *4' 979C 6'/'4*' +2 ' +3('2 3' '*?3@ 3?' :4 ' +3' ' 549' : 7' :7)' :'3)?9' 4' +3' 6 '*/3' 4:' 2' /' (' =+'/+')('*<' '*' 354 3' 4@9/7 ' (' 3;3*' @3(4*?' +3' :2@7)479' 2<39' 4:' 453' +29' 2)549')3: ' ' 9' 3A'9 3*/3' 2' 52 3 ' 4:' ?47@' +3' +4*47 ' 2*?' <'!2 'B' 7?3' ?73' 4*' +'9' 9/4 3' ' /+2))3*<3' '*' @3+2):' 4:')7')'79$' =+493' *253' 26632 9' '*' 452*' +'9 4 (' @7' +29' @33*' :4'9 3?' '* 4' 2' ;3 (' '*266 46 '2 3' 6)2/3

+3' ;2))3(' 4:' 4 2:3 2 2' 29' 47' 3(39' 3))' 79' '9' +3' 9' 3' 4:' 2' 52 9+' +2' +29' @33*' ? 2'*3?' 4' 2 +3' 4:' 2')2E3' +2' +29' @33*')3' 4::')'E3' +3' $ ' ')' 4=' =3' 32?' 4:' 2' $ 5 ' ' # ' 7*?3' +3' 79/7)2*' +'))9 I 0.6' +'9' /2*' @3' *4' 4 +3' +2*' +2' ;2))3($ =+'/+' /4*93R73*)(' @3)4*<3?' 4' +3' '5 53?'2 3' ?452'*' 4:')@2' +3' =2 3' : 45' ' ' '9' /2 '3?' 4:' @(' =4' /+2**3)9$ 4*3' 4:' +35' '9' 2' /2*2)' =+'/+' 7*9' '* 4' +3' 3;3 4*3$ +3' 4 +3' 2' 7**3)' +3=*' + 47<+' +3' 4/E' +2):' 2' 5')3')4*<' '*' +3' < 2*?' 9 ()3' 4:' ;3 (' 32)(' 2<39')32?'*<' 4' +3' 2562<*20 I' 3 3' =+3 3' 4*)(' @2?' =2 3' '9' 4' @3' <4 ' 2*?' 3;3*' +2' 579' @3' ? 2=*' : 45';3 (' ?336'=3))9' +3'=2 3' @ 47<+' @(' +'9' ?(E3' +47<+' 57??(' =29' 2')329' ;3 ('93 ;'/32@)3' :4' +3' /2)3' 2*?' +3' 94')' 9' /47 93' 2' :' 9' =29' 6 4@2@)(' 4=2 ?' +3' 932G @7' 3;3*' '*' +3' '53' 4:' +3' 452*' E'*<9' ' '=29' 7 *3?' '* 4' +3' /' ($ =+3 3' ' '*4=' :)4=9' + 47<+' +3' ;2))3(' 4:' +3

A!A @*/ ' B' 8' 2-(2!"80-' (0%1-' '."8-128' = :1-(18:18')2-' ")' 2-(2!"80' 8' !)"8"4' @"!!14

V' , -' -'-'"'1:')*' ").1'' / "8' 1;'.141!*' '.2-'+0.', *' + '81--/ 1' "92 -' 1'' "92"1:2(' !#2-/ 8' B '? +,0' ,0+1@1.' :01-' 80'' .1(078 _1' ', 1' !2 ! "8' :*D1/ "8*' 40.1' ', "8' , -') 0',1.'0507."5,1.-' 8' ', 1' , !!' ', .027,' +, (,' ', 1' '2881!' -' ("... 1:/ -'"8 :-' 18'.08 / "8'1;'18- @1' .2 8' %860.'28"'1!*' ' : :' 80'' .1" :' ").1'' J-' +0.D' ' !!' "6'1.' 4*' .1G '2.8' 6.04' 0413' "8:' ' 81@1.' ,1". :' 06' ', "'' '2881!' +, !1' ' +"-

' /7 '* 4 +3 '@3 ' @32 '*< +3 *253 4: ' 7 ' 2)
+3 =2(' : 45' ' 9 4 '<'*' +3 64 '4*' 4:' +'9 ?(E3 2@4;3
+3 964 ' =+3 3 +3 452*9 7 *3?' ' ' 4::' '9 +3 %4992
)7')'2' 94 /2))3?' 2: 3 ' +3)@2*' ?'/ 2 4 ' @(' =+45' +'9
<'B2 ' =4 E =29 3A3/7 3?' %';3 5')39 : 45' +3 4 2
263* p ' 4*' +3 2 '*' 42?' 2*?' +3)7')'2*' ?(E3 ' '9 +3
6)2/3 =+3 3 4 '4)2*79 3*/256 G 2*?' '*' +'9 ;3 (' 964 '
@(' +3 7'*479 +25)3 ' 4:' 3 3@299' ' +3 2 '*' 42?' / 49939
+3 2 2*2

+3)'9 ' 4:' +3)@2*' E'*<9 '9 2 ;3 (')2 3 2*?' /)759(' '
:2@ '/2 '4*$ 2 53?)3(' 4:' *2539 9453 4:' +35' *4 ' 3;3*'
2)'2*' 4*39 ' 9453 4:' +35J 363 ' '4*9 47 ' 4:' 32)'3 ' 4 '
)2 3 ' '539 ' 4 +3 9 /4'*3?' 47 ' 4:' <34< 26+'/2)' *2539$ 2*?'
=' +' 9/2 /3)(' 2*(+'*<' 4:' 2 9 4 (' @3)4*<'*<' 4 +35 ' 3
2 3 4)?' +2 ' ';(' 44E' +'9)'9 ' : 45' ' 4 *3)'79)3A2*C
?3 ' +3 4)(+'9 4 ' 3*/3 ' ' =29 6 4@2@)(' +'9 /)'3* '
4:' ())2 +2 ' '* 4?7/3?' +3 '5649 7 3 '* 4 +'9 4 (' +3
;2 '2 '4*9 @3 =33*' ';(0)'9 ' 2*?' 4 +3 9 2 3 *4 ' ;3 ('
52 3 '2)' 2*?' 2 3 *4 6 44:' +2 ' +3 3 =29 54 3 +2*' 4*3
2*/'3* ' 947 /3 ' 453 4:' +3 *2539 52(' +2;3 @33*' 2E3*'
: 45' 4)?3 ')3<3*?9 ' :' +3 E'*<9 4:' +3 @4 '<'*39 44
9453 *2539 +2;3 @33*' +2*?3?' ?4= *0.$ 2*?' +393 2 3
3* ' 3)(' ?'::3 3* ' : 45' +3)@2*' 3 2 3 3;3*' 4)?' +4='
52*(' (32 9 32/+' 4:' +3)@2*' E'*<9 3'<*3?G 2*?' +3
75@3 ' 94 3A2/)(' :'))9 76 +3 ' 3 ;2)' @3 =33*' +3 :2))
4:' 4(' 2*?' +3 :47*?'*< 4:' 453 ' 2//4 ?'*< 4 +3 /2*4*'
4:' 2 49 +3*39 ' +2 ' +'9 4:' ' 93):' 9+3=9 +3)2 3 2<3 4:' +3
'5649 7 3

%4 ' '*' 32)'3 ' '539 +3 452*9 3/E4*3?' + 33 +7*C
? 3?' (32 9 @3 =33*' +3 @7')?'*< 4:')@2 2*?' +2 ' 4:'
453 ;3*' ':' +3 *75@3 ' 4//7 3?' 4*)(' '*' "' C
<') ' ' =47)?' 9 '))' @3 /)32 ' +2 ' +'9 =!29 2 9 2 353* ' 4:'
57/+' +'<+3 ' 2* 'R7' (' 2*?' +2 ' +3 ?'?' *4 ' '*;3* ' +3

' 1.@ 2 /08 U8 ' @ !'

'1.(18 2-'60.' 8-'"8(1/ 28!1--' ',1'8" 41')1' 4 -51!'/ 1.@ 2-/
08 U8' 1 ' ' X , ' ' k

2 '4+53:3'/2)f 6 '4< 399'4*')) 33' +' DJ' '' 33')'7*/);/? ' 3' 5'<+ ' +'*E' +'5 93):',79 ':'3?' '*')3 2'*'*<J'V;+2' 2*' 3 *)'3 ' 643 ' +2?0 3)2 3?f'G +7 ' +3' =47)?' *3;3 ' +2;3' @33*' 93?7/3?' @(' *753 '/2')' 9(553 (' 4' 299'<*" ?2 39 ' +3' '*/4 3/ *399' 4:' ;)''/+')'3' 579 ' +2;3' 63 33';/?,' 29' 329')(' 29' 2*(' 9/+44)' @4(' : 45')'3' 2@)39' 4:' ~64)4?4 79' 4 ' 4 *3)'79'J3649" !' '9' 2*' 7*3A63/ 3?' < 2 ':'/2 '4*' @4=3;3 J' 4' :'*?' +2 ' '*C <3*'479' = ' 3 ' 4<79' 4563'79,' =+4' 32 3?' +3' 4 '<'*' 4:' 453')'E3' +3'*32)(' +'9 4 (' 4:' 4 +3 ' *2 '4*9' =' +' ?'9C / '5'*2 '*<' +33?45 ' 3/E4*'*<' '*')'3' 9253' 52**3 ' *4' 54 3' +2*' + 33' +7*? 3?' (32 9' :4 ')@2IJI!G 2*?' 94' ?'?' ';(' +'593):' =+3*')'3' 29975 3?' :47 ' +7*? 3?' (32 9' :4 ' 9' ?7 2 '4*' 7* '}' 9' ?39 7/ '4*' 2@47 ' +3' (32'J')' ' 4:' 4 * 3 +' 9 '+4=3;3 ' =29' *4 ' +3' 4*)(' 2*/'3* ' /)' 4*4J')4<'/2)' 9 2 353* ' 2 ' ;2 '2*/3' =' +' +2 B4:' +3' 33E9 ' //4 ?'*<' 4' 4*3 ' =+'/+' / ;?79' +29' 3/4 ?3?$ m ' (32 9' 3)269 '@3 =33*' +3':2)+4:' 4('2*?' +3' '@7 ?5<4:' 4 *3' $,79 ' 29' 52*(' 29' @3 0;33*' +3' @7')?'*<' 4:' 4 *3' 2*?' ' 9' /26 7 3' @(' +3' 27)9' 4=' =3':'*?' =4' 4 +3 '9 2 353* 9 ' +3' /45@'*2 '4*' 4:' =+'3@')32?9' 79' 4' +'9' 93/4*?0 *75@3 ' 2*?' 2 ' +3' 9253' '53' 3/4*/')39' ' ';' +' +J':4 53 ' +3' :' 9 '9 ' +2 ' d *3_9')';3?' 93;3*' (32 9' 2: 3 ' +3' :2)' 4:' 4(

2-' 8/ ; %& ' !)8' (I2"1'68 1218' -' "88 -' ("52" .176! ' 62 ' V' @*/ ! ' ' M2":. 8712'0.24' "820.24' 052-/ 92)2-' !)"' -'('1."' ' ,1' -"41' ', 87' -' 418' 081:')*' 1.@ 2-/ 08J n 8 ' ' z / "-' "' : 66 (2!'*' ? (24' 1".8' 92":. 8718' -' "88 -' .179"--1' (08-'1" -2)' ! ')"8 -' .17)2-'3 "8:')1' -0!@1-' " "-' ' ,"@1' :081' 8' ', 1' ' '1;' ' "8" & 92 !' ")1./ 8' '" 80'1' 98' ', 1' 5"--"71' 06' @*/ ,"-'0)-1.@1:' '-' (08 ' & 81; 08' + ',' ', 1' ! 81' 06' .7 I3' 2D1./ 02'! 1' "41' 5"--"71/ .161.-' '0' 0:+2% 1' *(! -/ : --' ; ' 5' NB / 5J,0' ,"-' 80' (1:' "!40-" "!!' ', 1' 56!--)71-' ' ,"@1' '1:/ "8:' ,"-' 51.(1 @1:' ', 1' 82!! '*' 06 1' !)"8' ! 81' 06' D 87-

fA 1.@ 2-/ 08' n 8 ' ')' ' ,051' ' -! !!' 80")1' 18(02."7 87' 4*-' (-4' "8:' '" (, !: -,' !0@1' 06' '. 6! 87' + ',' 824)1.-/ +,18' ' .14".D' ', 1' - 872!".' 5!"*' 06' (,"8(1/ ', "' ', 1.1' +1.1' I2-' ' *1".-' 6.04' ', 1' :1-'82(08' 06' 040')*' ', 1' C"2!-' '0' ', 1' (08921-" 06' !1;"8:. 8/ S! H' 6028:"' 08' 06' ', 1' 408".(,*' 3' "8:' 0' -"41' 8 4,(.' 6.04' !! 1' !"'' 1./ 1@18" '0' ', 1' :1: ("' 08' 06' 08-'"8' 805!1

3*<2<3?' '*' +'9' =2*?3 '*<9' 4 ' '*' =2 I \$ +3' 4 +3 ' +2 ' ');'79' /47)?' *4 ' 4@ 2'*' 6499399'4*' 4:' +3' + 4*3' @3:4 3' +'9' :': (B +' ?' (32 IT' ' ='))' *4 ' ;47/+' +2 ' 2' ');'2,'' +4793' 2/ 72))(' 3'<*3?' 2 ')@2G' +3' :2/ ' +4=3;3 ' =29' 2997 5 3?' '*' +3')@2*' 3/4 ?9' +3' 3A'9 3*/3' 4:' 97/+' 2' +4793' 6 397664939' +2 ' 4:' 2' +3 4 ' ');'79' 4 ' ')779 ' 4=' ':' +3' 2 '*' 2?' '4*' 97/+' 29' ' ' =29' '*?363*?3*)(' 4:' +3' 4,2*')3<3*?' 5 2?3' ');'79' +3' :47*?3 ' 4:')@2' 2*?' + 33' +7*? 3?' (32 9' +3' '* 3 ;2)' @3 =33*' +3' @3<'*C *'*<' 4:' +'9' 3'<*' 2*?' +3' @7')?'*<' 4:' 4 5 3$' +3*' '*' 4 ?3 ' 4' '* 4?7/3' +'5' '* 4' +3' 4,2*')3<3*?' 2*?' 4' :'))' 76' +3' '* 3 ;2)' 4:' + 33' +7*? 3?' 2*?' 9'A (' (32 9' @3 =33*' 4(' 2*?' 4 5 3 ' ' @3/2 5 3!' *3/3992 (' 4' 2E3' :': (B + 33' (32 9' : 45' +3' ?32 +' 4:' , *329 ' 29' +3' '53' ?7 '*<' =+'/+' ');'79' +'9' 649 7 5 47 9' 94*' =29' 7*,79)(' 3A/)7?3?' : 45' +3' + 4*3' *?' ' ' '9' :4 ' +3' 92E3' 4:' 3/4*/')'*<' +393T' *2 ';3')@2*' ');'" =' +' +3' 4,2*')3<3*?' +2 B' +3' 649 3 ' (' 4:' 9/2*'79' 2 3' 3 5 4;3?' 47 ' 4:' +3' =2(' @(' +3' 2@?'/2 '4*' 4:')7)79

% 45' ');'79' +3' ' 5 2 3 *2)' 2*/39 4 ' +3' 4 5 2*' 2C ?' '4*' ?3 ';3?' +3' :47*?3 9' 4:' +3' /' (' 7 ' ' ?'?' *4 ' 36 393* ' +3' ' 4 5 2*'9' 29' 2' /4)4*(' : 45')@2

bB' 08*- 2-/ ' N 3' "8:' 1.@ 2-/ 08' 8 ' ' F3' 60.' ,1' "--241-' 602.' *1".-' 60.' ' ,1' +"8:1. 87-' 06' !81"-3' '0' + , (,' 42-")1' ": :1:' ', 1' ' , .11' -518" 8' ' ,1' "' "8' '0+8' 0 6' .0* ' 8' ' ,1' 81 :' ' ,1' .0G I"8-' :0' 80" .1"(,' ".' !"71' ' !!' ' ,1' -1@18',' *1".' 06' ' ,1 .' @0*"71

> ' "4' "+".1' ' ,"' 1.@ 2-/ 08' 8' @ ' BB / -"*-' ', -' 06' !@ 2-' 81"-' 2" " -114-' 1@ :18" ' ,"' +,"' +"-' 8@18'1:' 60.' ' ,1' 081' !@ 2-/ ,"-' ,1.1')118' ."8-61..1:' '0' ' ,1' 0 ' ,1.3' { ,0' -' +,0!!*' +"8'G 87' 8' @ :' ,1' -"41' ' , 87' ,"-' ,"55181:' 8' 824)1.!1--' 8-'"8(1-

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: " ! &<) +3 33E /' '39 @7') 2: 3 +3 3 7 * 4: +3 3 2/)'?9 +3 3 =29 *4*3 94 '*9'<*':'/2* 2 +2 6+4 79 2*? +3 = ' 3 9 2: 3 +'5 =+4 '* 4?7/3? 2//47* 9 4: +3 4 '<'* 4: /' '39 '* 4 +3' <3*3 2) +'9 4 '39 =47)? +2;3 @33*' 7*2@)3 4 9 2 3 963/':'/2))(2*? =' +' 97:''/'3* /3 2'* (: 45 =+2 6346)3 +3 /4)4*(+2? '9973?' 2*? =+4 =3 3 +3 :47*?3 9 +2)3? 2*? <2;3)2=9 4 ' G '*' :2 +3 549 /2939 +3(2)94 :'A +3 364/+ 4: +3 :47*?2C '4* ' +' 3<2 ? 4 453 +3 9 4 (4:' +3 ' :47*?2 '4* +47<+' 9+3 '9 9766493? 4 @3 54 3 3/3* ' +2*' 63 +269 +3 < 32 3 '62 '4:' +493 4=*9' 2*? +3 6346)3 : 45 =+45 +3 '3 3 *2) /' (4 '<'*2))(96 2*<' 2 3 +3 ;3 (64'* 9 4* =+'/+' =3 2 3 +3 549 '*' +3 ?2 E 7 ' ' =3) @3/253 +3 3 3 *2) /' (+2 ' ' 9 44 9 9+47)? @3)49 ' *' '*:'*' (G *4 ' =29 +3 9 4 (4)? +(+3 643 9 4: +3 '*:2*/(' 2*? ?3':'/2 '4*' 4: 457)79)399 '*' 2//4 ?' =' +' +3 52,39 (4: 453 ' <4? 4 ' *4 4*3 579 '+2;3 :47*?3?' +')3 ' 2/E*4=)3?<3 +'9 +4=3;3 ' =' +' 2 :33)'*<' +3 9'*/3 ' (4:' =+'/+' *4*3 @7 2 @'<4 ' +'593):' '*C 9'*/3 3' /47)? 933E 4 R739 '4*$ 2*? =+')3 ' 2))4=' +3 +32 ' 2*? +3 '52<'*2 '4*' +3' ' :7) /)2'59$ ' 2 ' +3 9253 '53 2993 ' +3 '<+ ' 4:' 3294*' 4 3:793 4 2?C 5'' 2*(+'*< 29 +'9 4 '/2) ' =+'/+' /2**4 ' 6499'@)(@3 94$

52(' @3' 92 '9:'3?' 4' 352'*' '<*4 2*/3' :' +3' 2**2)9' =3 3' 39 4 3?' 2*?' 3/3';3?' +3' ' 6 393* ' /+ 4*4)4<'/2)' 47)'*3' 944*' 2: 3 ' +3' 2E'*< 4:' +3' /' (' @(' +3' 27)9 ' ' 'g' /)32 Y *4 ' ?43g' ' '*' 4 +3 ' 3963/ g' 2?5' ' 4:' ?47@ ' Y +2 ' 3;3*' +7g' 32)(' 457)7g' =2g' 36 393* 3?' 2g' +3' :' 9 ' E'*<

4*9'?3 '*< +4=' :3=' 54*753* g' +2;3' @33*' 6 393 ;3?' : 45' +3' 32)(' 2<39' 4:' 453 ' =3' 52(' 3<2 ?' ' ' 2g' /45C 62 2 ';3)(' 2*' 2*/'3* ' 39 '54*(' 4:' 2' +3 3:')';'*< 254*< +3' 6346)3 ' 2*?' 3/4<*'H3?' @(' +3' 9 2 3 ' +2 ' '*' +3' (32 ' X ' @ 4*H3' :'<7 39' 4:' +3' 9+3=4):' 2*?' +3' @2@39' =3 3' 93 ' 76' *32 ' +3' %'/79' 75'*2)'9$' +3' 4)?39 ' 2*?' :'*39 ' =4 E' 4:' 452*' 2 $%=+'/+' +2g' 32/+ ' 79 ')'E3' +3' 453 '/' 64359 ' +47<+' 94' 52*(' 54 3' 3/3* ' =4 Eg' +2;3' @33*')49

+3' 9 4 (' =+'/+' 93)3?' 2g' 2*' 2 '/)3' 4:' 6467)2 ' @3)'3:' =29' +2 ' 453' =2g' @7') ' @(' ='*B@ 4 +3 9 ' =+4' =3 3' +3' 94*g' 4:' 2' 6 '*/39g' ?3:)47 3?' @(' 2 9 ' 2*?' =+4' +2?' @33*' ?3)';3 3?' @(' ?';'*3' 2'?' : 45' 2' =2 3 (' ?32 +B' 2*?' :49 3 3?' 2*?' 97/E)3?' @(' 2' 9+3=4):' +3' 2*'52)' 92/ 3?' 4' +3' ' 9' 3' +3' 47)'*39' 4:' +'g' 2?' '4*' /47)?' *4 ' @7 ' 3/3';3' 2' ;2 '3 (' 4:' 54?':'/2 '4*g' '*' +3' /47 93' 4:' 2<39C 2*?' +3 3' 6 4@2@)(' =3 3' 4 +3 ' :4 5g' @39'?3' +3' =4' 52'*' 4*39' 7*?3 ' =+'/+' =3' :'*?' ' ' 2//4 ?'*< 2g' ' ' 'g' /4**3/ 3?' ;:' +')@2' 2*?' +3' ;'' ' 4 ' =' +' ' *329

' =')' 3: 2'*' (3 ' 2' =+')3' : 45' 3)2 '*< +3' :4 53 ' 4:' +393')3<3*?9 ' =+'/+' 3;3 (@4?(' E*4=2' 2*?' =+'/+' ':' ' ' =3 3' *4 ' '* 3 39 '*< 4' 39 4 3' 97/+' :32 7 39' 2g' +2;3' @33*' 2) 3 3?' '*' +3')2 3 ' 36 393* 2 '4*9' ' ' =47)?' @3' 97::'/'3* ' 4' 2))7?3' 4C '*' +3' 93/4*?' =+'/+' =2g' 2?46 3?' @(' 93;'79' 2*?' **'79' +3' 7*:4 7*2 3' 6 '*/39g' =2g' /2))3?')'2 ' +3' ?27<+ 3 ' 4:' r *329 l . ' ' 52(' @3' /4*C ,3/ 7 3?' +2 ' '*' +'g' 2)94' 9+3' =2g' 36 393* 3?' 2g' 2' " 39 2)C 3)93' +3 3' =47)?' +2;3' @33*' *4' 6)32' :4 ' /4*?35*'*< +3 ' 4' ?32 +' +3' =2g' + 4=*' '* 4' +3' *'4C +3 ' :4 7*3

18(1' ("41' ',1' -'0.*' 0C 4*! '" "8:' .1-? H!2'".(,/ 042!' ('

493 2<2'* 47 4: +3 9 325. I .$ +3 ';3 B<4? 52?3 +3 +'9 @ '?3 I I " ' J 0 ?39/ '6 '4* 4: +3 <3*3 479 @ 7 3 :33?'*< 2*? /2 399'*< +3 @2@39 '* +3 ?3* =29 /46'3? : 45 **'79 * +'5 44 +3 (2* @4 3 +3 *253 4: 57)'79 2*? +2 +3 ?'? 94 '* 93;'79 9335 9 +2 ?)(4 @3 R739 '4*3?$:4 +3 3 '9 2 ;3 (/= 76 : 2<53* =+'/+ 52(329')(@3 /4 3/ 3? @('* 4?7/'*< +'9 *253 @7 9/2 /3)('* 2*(4 +3 52**3 I . /2**4 ?'9/4;3 +3 9)'<+ 39 '*?'/2 '4* +4=^;3 =+3 +3 +393 4)? 643 9 976 6493? 2*(2::'*' (@3 =33* +'9 57)'79 2*? +3 +4793 4: 9*329$ 4 +4= +3(2//47* 3? :4)'209 @3'*< +'9 97@,3/ $ 4 =+3 +3 +3(52?3 53* '4* 4: 9/2*'79 4 4: ');'79 * +3 : 2<53* 4: **'79)'2 '9 2*4 6+2*$:4 +3 :2 +3 26632 9 4 +3 '* 2 ? 325 3 '9 3 4 =+45 '* +3 3 47 9+3 3)2 39 +3 *4/ 7 *2) ;'9'4* '9 +3 ?27<+ 3 4: 2 7 (?'/3

+2 '*<3*'479 / ' '/ 3 'H4*'79 =+493 97@ ')3 4@ 93 ;2 '4*9 =3 3)49 4* +'9 /4* 3564 2 '39 +29 9+3=* +2 +3 54 +3 4: 457)79 =+3* 9+3 '9 /2))3?)'2 '9 2)=2(9 +3 ?27<+ 3 4: J*329$ =+3* 32 ');'2 2*)@2*6 '*/399$ 2*? +2)'2 '9 *3;3 /2))3? 32 I. =') 2?? +2 +3 *253 U '9 2 /4 76 '4* '* 6?7/3? @(+3.3?' 4 9 =+4 ;3 (7*93294*2@)(@3 +47<+ +3593);39 4: +3 <4??399@ 9335 9 4 +2;3 9'<*':'3? *4 +'*< 54 3 +2* I +3 935@)2*/3 4: 2 6 463 *253 52('*?33? +2;3 2 '93* 32)( )329 ' =29 /3 2'*)(: 45 9453 2?' '4* +2 " ' <') 44E +3 6 '39 399 32 =+4 @2 3 ;3* '*79 4 3 /7)39 I$ 2 ?76)'/2 3 4: +3)@2*

H0-"1;'6!2@ 0'60.'28'".1- -'1'? 88 2-/ 5'

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U . ', 1 72 !'* +04"8 " .14 8:-' 2-' 06 ', 1 1;5.1-- 08/ .1"

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32 ');'2 +29 *4 *3/3992 (/4**3A'4* =' + *329
+2 +3 2?'4* /4*/3 *'*< +3 '9 54 3 2*/'3* +2*
+3 4*3 /4*/3 *'*<)'2 /4*,3/ 7 3 @3/2793 +3 /45
67 2 '4* =+'/+ 52E39 4 m (32 9 '* 3 ;3*3 @3 =33*
4(2*? 453 '9 4 2)) 26632 2*/3 2)329 2 /3* 7 (
2*? 2 +2):4)?3 +2* 23;'79 +3 63 6)3A'*< 64'* '9
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=2(/47)? 2?46)'2 +3*X+3 33E /4567 2 '4*9
=+'/+ 3A 3*?3? +2 '* 3 ;2) 4 @3 =33* X 2*? XX
(32 9 @3/253 <3*3 2))(E*4=* 9+3 *3/3992 ')(?'926
632 3?)44E 764* ' 29 2)549 /3 2'* +2 ' =29
@(9453 7*E*4=* 33E 6435 4*3 4: +493 =+'/+ @ 47<+
457)79 /)493 4 +3 '53 4: r *329 +2)'2 =29 '5
64 3?'* 4 2 '75

/2 3)399 3A6 399'4* 793? @( )7 2 /+ =+'/+ '* :2/
53 3)(2993 9 +2 4*3 #'4?39 4: 362 3 +79 :' 9 52?3
+3 9 4 (4: ');'2 E*4=* 4 +3 33E9 . +29 : 45 +'9
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@(%2@'79 7*2//47* 2@)(<';3* '93 4 +3 *4 '46 +2
+3 9 4 (=29 +3 '*;3* '4* 4: +'9 7*E*4=* 33E 2
63 94* 94 '*9'<*':'/2* +2 #'4*(9'79 +29 *4 3;3*'!2?
5' 3? +'5' '* 4 +'9 +49 4: 33E 27 +4 ' '39 4 +'*<
@7)7 2 /+09 3A6 399)(2993 '*< +2 %2@'79 =+4 =29
2 93*2 4 2*? =+493 *2 2 ';3 /4'*/'?3? =' + +3 92/ 3?
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' /47)? /4563)! 79 4 ('3)? 4 +3 3;'?3*/3 4:2 :2/
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+'*< 4 6 3;3* '47 '976649'*< +2)7 2 /+ 4*)(*:3 3?
=+2 +3 92(9 : 45 +3 2< 3353* '@3 =33* +3 =4 = ' 3 9
#'4?39 @3'*< 63 +26 2)')3 +3 3)?3 3;3 +3)399
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4*3' =+3 3 457)79 2*7 3579 =3 3 +3 < 2*?94*9 4:
J*329' 2*7 =3 3 ?3)';3 37 767 29 +49 2<39 4 2 '*79'
=+4)3:' +35' 2 62 ' 4:'+'9 E'*<?45.I' 3 2)94 /' 39
2*4 +3 '=+'/+'=29 /46'37' : 45' 36+2)4*' 54*<' +3
452*' = ' 3 9 6 393 ;37' 4 79' 2))79' 2)4*3 7*3R7';4C
/2))('2*7 3A6 399)('2?46 9 +3 46'*'4*' =+'/+' /2 '37 453
@2/E 4 +3 2<3 4:' 4($:4' +3 53 3 67 6493 2997 37)('
4:'<3 '*<' '7 4:' 457)79 2*7 +3 52 ;3))479 :2@)3'
'9 2 :32 7 3 /+2 2/ 3 '9 '/ 4:' 97/+' = ' 3 9' +2' 4 ?4
+'9 +3 2?5' 9 +3 93)353*' 4:'J*329' +47<+' R7' 3 29
?39 ' 7 3 4:'+'9 4 '/2)' :47*?2 '4*' 27 "3))3'79 964E3*'
4:' +3 2 5'39 4:' 2 '*79-29 97664 '*<' +'9 < 2*?94*'
457)79 2' +3 :47*?'*<' 4:' +3 /' (' 2' +3 9253 '53
+2' +3 299753 7 +3 /4554*' 3 2 :4' +3 @7')?'*<' +3
=47)7 +2;3 /4*:47*?37 +3 =4 46'*'4*9 =' +' 2 /2 3)399C
399 94 /4 2 (' 4'+'9 7972)' 6 2/ '/3' +2' =3 579' *337?9
2?46' +3 353*?2 '4*' 6 46493 @(' '69'79
+')3 +3 *2 ';3)3<3*7 +4=3;3' '9 9'56)3 '*' +3 52'*'
+3 9 2 353* 9 4:' +3 33E9 29 4 +3 :47*?3' 4:' 453'
2*7 +3 63 94*' 2:3' =+45' ' '=29 *253?' 6 393*' < 32 3'
;2 '3 '39 +2*' 4//7' '*' +3 /293 4:' 2*('4 +3' /' (' '9
/)32' +2' +3('=3 3 32)('2=2 3 4:' +3 64=3' 2*7 '564 C
2*/3 4:' 453' 2*7 +2' 44 @3:4 3 '* 3 /47 93 +27 52?3
+35' 2/R72'* 37 =' +' +3 452*96 +3*/3 +3('* 4C
?7/37 +'9 6346)3 '* 4 +3' '<3*32)4<'39' 7' 29 *4 +'*<
=29 3)2 37 4:' +35' '*' 2*('6435' 4:' <3*3 2)' *4 4 '3 ('2*7
' '=29 *4' '))' ;3 (')2 3 +2' +3 *2 ';3)3<3*7 / 49' +3
932' 4*3 = ' 3' 2: 3' 2*4 +3' '*;3* 37 2 9 4 (' 4 3A6 399
+'9 4=*' ;'3=' +393 2//47* 9 ?4 *4' 6 463)('?393 ;3 4
@3 /2))37 2?' '4*9$ 2*7 +3('5'<+' @3 629' 4;3' =' +47'
2*('52 3 '2)')499 4 +3 +'9 4 (' 7' 29 +3 364 9 4:
+35' 2 3 94 ,75@)37 4<3 +3 ' +2' *4 9)'<+' 62'*9 2 3
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08*- 2-/ ' B
' 08*- 2-/ ' B ' 11)1!0+/ 80'1-' N ' "8:' N ' >
:I2'2-'!17 08)2-' " ' "@' -2'3 8-'1"U 06" ' '

+2;3 2 356 3? 4 ?4 94 =')) 2))4= +35 +3 '*/4*C 9'?3 2@)3 962/3 =+'/+ +3(' =')) 4//76(' =+3** 3?7/3? 4 4 ?3 +3 9 =')) +79 @3 962 3? 2 =32 '9453 29EG 2*? 7*)399 2 /456)3 3 97 ;3(' @3 2E3** 4: +35 +3(' 52(' 9335 4 6 45'93 =+2 +3(' @(' *4 532*9 :7):'))

54*< +393 :'/ '4*9 +4=3;3 =3 2 3 *4 4 /)299 +3 53* '4** 52?3 4: 453 @(' * '4/+79 =+4 3)2 3? +2 '/3)79 =29 :)('*< : 45 +3*/3 =+3** +3 /253 4 +3 2)'2*' E'*< 4 <39 l . 3 3@(' +3 ?39'<*2 39 452 29 4*3 4: +3 /+'3: /' '39 4: +3 (+3*'2** '/7)'2*9G 94 +2 +3 /4* 2?'/ 9 +3 46'*'4** 4: ' 9 4,2** 4 '<'*$ +47<+ +3 '9 *4 4 4** +2 2//47* 4 +3 3/E4*3? 29 ?3*('*< +3 93)353* 4: +3 4,2*9 '** 2 '5 * 4*C *3/ 3? =' + +'9 ;'3= '9 +3 9 2 353* +2 453 =29 :47*?3? @(' +3 3)29<'2*9 +3(' =+4 +3)? +'9 6346)3 4 @3 33E9 92'? +2 @3'*< 2 =2)'E3 2/3 +3(' <2;3 +3' /' (' 2 *253 3A6 399';3 4: +3' ;'<47 G =+')3 97/+ 29)44E 764** +35 29 2** 2)'2** '@3 :''@)3? +2 +3 :' 9 *253 =29 "2)3* '2 2*? +2 2: 3 =2 ?' =+3** ;2*B ?3 2*? d *329 =' + +3' :4))4=3 9 =+4 964E3 33E 44E 6499399'4** 4: +3 /47* (' ' =29 3A/+2*<3? :4 +3 /4 3964*?'*< 33E =4 ?l l 4 34;3 2//4 ?'*< 4 +2 R72)' (' '** 2?' '4*9 =+'/+ =3 +2;3 94 4: 3** 3C 52 E9 +3 3)29<'/ 4 '<'** 4: 453 '9 '56)'3? '** +3)3<3*? +2 +3 27 +4 4: ' 9 *253 =29 4579 2 2 '** (2* =+4 ? 4;3 +3 (?'2** (+3*'2*9 47 4: +'9

u ,1** ".1 5.1-1.@1:)** 08*- 2-/ B / B 3)** H!2'". (,/ 0 42! / 3)** 1.@ 2-/ 08Jn8 B 3 "8:)** 1-'8-/ @ 04" 0 ! 82- ,"- 08!** 4": 1 1;'."('-/ ! D1 1-'2-/)2 6". 40.1 -("8' !*/ 6.04 1.. 2- !"((2-/ +,0 , 4-1!6 -114- '0 ,"@1 :."+8 (, 16!* 6.04 0G 8*- 2- LL 08*- 2-/ B

Y 1.'" 8 +. '1.- 80 8"41: 8 H!2'". (, 3 '* 24"8 (,.08 (!1 8 1-'2-3 :1 2- S+ ,0-1 8"41"55".18'!** - 4 -51!'# 8 1.@ 2- ,1 (,.08 (!1 06 24"* 4"D1-' ,1 H1!"-7 "8- 5.0(11:'6.04 ',18- ' ,.027, ,1-5 R S 8 |0' "# '0 ' ,1)1.3 +, !1 ' ,1 C.11D- 7"@1 ' ,1 .'14 G 7."' 08 ' ,1 5.1(-1!** 0550- '1 : .1(' 08 8 ' ,1 @1.** (0..25 5"--"71 06 1-'2- '@18'2.1/ 8-'1":' 06 ('W '1 'G W ' '0 .1":/ O ('W 1 'G

3<'4*I\I ' 2*(' = ' 3 9' 92(9 #'4*(9'79' /2))' 453 2'
(+3*'2*' /' (J') (' +'9 549' 4:' +35')'E3 /()2A'
6 4@2@)(' 7*?3 9 44?' 2*' 79/2*' 4*3G +3 32)'3' +4=C
3;3' 52(' +2;3 532*' 2' 3)29<'2 '

' +' +393 3A/36 '4*9' +3 33E9 =+4 53* '4*3?' +3
:47*?'*< 4:' 453' @3:4 3 +3 '53 4:' '5c79' =3 3
7*2*'547 '*' 46'*'4*' +2' ' =29 @7')' '553?'2 3)(' 4'
'*' =4 4' + 33 <3*3 2 '4*9' 2: 3' +3 :2))' 4:' 4(' 7'
*' 4*3 64'*' +3(' =3 3 ?';'?3?G =+')3 549' 4:' +35'
/4*9'?3 3?' +3 4,2*9 29 +3 :47*?3 9' 3' +3' 2)4*3' 4'
'*' /4*,7*/ '4*' =' +' +3 @4 '<'*39$' 9453 4*' +3 /4*C
2 (' /4* 3*?3?.':4' 33E9,' 4 +3 9 :4' 2 5'A' @2*?' 4:'
+3 =4 *2 '4*9

54*< +3 2?;4/2 39 4:' +3 :' 9' 46'*'4*' :3=' 29/ '@3?'
+3 :47*?'*< 4 d *329 +'593):'$ 2' :2' < 32 3' *75@3' 4
457)79' =+45' +3(' ?39/ '@3?' 9453 29 +'9 94*' 8/45C
'*<' 2//4 ?'*< 4 9453 = ' 3 9' : 45' :4 3'*' 62 9 '* 4
2)(' 2//4 ?'*< 4 4 +3 9 @45' 4:' 2*' 2)'2*' 54 +3 D'
9453 29 +'9 < 2*?94*' ' 54 3 354 3 ?39/3*?2* J'
2))'29' +3 +'9 4 '4< 26+3' 4:' <2 +4/)39' 36 393* 3?

H!2'".(, ' , -' -'"80',1.' 8-'"8(1'06'"8 8@1.'1:'6")!1
08*- 2-/ ' F' (*!";'4"D1-' *..,18 '".1"(,'/ $ '<A F'
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n81"-' -'-2550-1:''0')1'',1'6028:1./')*',0-1'+,0':1. @1:'','1'
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S !8"-'8' 1.@2-#/06' '"!2-/0.'06' 1!15,2-'SH!2'".(,#? 042!2-/
0.' 042-/0.')0','06','14/','1'-08-'06' n81"-/"8:'06' .12-"/H. "4J'
:"27,'1.'S','1'0!:'-(,0!'" 08' *(05,.08/ 8' _1'_1-' 08'@'J N3
5.0)")!*'"!-0' 15,"!08/ 7"',*!!2-/"8:J 14"70."-/ 8' 08*-2-#/
06' 1;',1'' SH!2'".(,#/ 06' "@8'' S 50!!0:0.2-' 8' 1-'2-#3','1'
7."8:-08-'06' n81"-/"8:'-08-'06' -("82-' S ."'0-',181-' 8' 1.@2-/
08*-2-'06' ,"!(-' 8' 08*-2-#' 0','-'"((028'' "!-0')1!087-'
04"/','1':"27,'1.'06' -("82-' S 7"',0(!1-'06' *_(2-' 8' 1-'2-#'
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-'!' 40.1'.140'1':1-(18:"8'' 06' n81"-'?"8:'081' !(42-'S 8' 1-'2-#
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!2-')*' !)"/"8:'','1'6028:1.'06','1'('*' ,1.1' -'"' (0881;08')1G
'+118','1' .0I"8' !1718:'"8:'','"' +,(,'1.4-' 042-','1'-08'06'
4"', 28/-18'')*' 041:1-'6.04' .0*? H!2'".(,

N

457)79 2*? 4579 29 +3 :47*?3 9 4: +3 /' (/2))'*< +35 +3 94*9 4: E'*< 2 '*79 @(2 4,2** +3 4'*3 452 =+4 63 972?3? +3 =453** 4 67 2* 3*? 4 +3' =2*?3 '*<9 @(93 '*< :' 3 4 +3 9+'69 +3 9253 :2@)3 '9 2))7?3? 4 @((/46+ 4**.\\ ;3** 36+2)4** 4: 3 6 +39 +3 549 2*/'3* 4: +3 = ' 3 9 R74 3?' +2? 964E3** @4 + 4: 457)79 2*? 4579 29 +3 =4 (47*<3 ' 4: +3 :47 94*9 4: I *329 =+4 +2? ?'3? '** +3 63*'*97)2 4: 2))3*3 9/2*'79 9+2 3? +'9 '*+3 ' 2*/3 =' + +35 =+3 3764** +3(35'< 2 3?' 2*? :47*?3? 453 2672 2*? =4 :2@7)479 /' '39 */@'93 2*? 12 + +'9 =29 /46'3? @(2 452** = ' 3 =+493 *253 #'4*(9'79 ?439 *4 53* '4*$ 2*? =+4 2@97 ?)(2??3?' +2 +'9 549 2*/'3* 453 =29 2: 3 =2 ? ?39 4(3?' 2*? +2 +3 /' (=29 3@7') @(2 93/4*? 457)79 2*? 2 93/4*? 3579

4)3(29 2 3 +3 /+2*<39 =+'/+ 2) +3 4 +3 /' /75 9 2*/39 7*?3 <4 '** +3 33E 9 4 '39 +3(9632E 4: +3 =4 @ 4 +3 9 ;3 (32)(3*/3 3;3** =+3** +3(= 4 3 4: 452**+'9 4 (2//4 ?'*< 4 *2 ';3 2//47* 9 +3 3579 4: +3 2 '*9 2)=2(9 <439 =' + +35 @(+3 *253 4: 3579

' + 3<2 ? 4 +3 93/4*? 46'*'4** =+'/+ 52E39 453 2 33E /' (:47*?3? 2 +3 '53 4: +3 3 7 *: 45 4(2 +2;3 2) 32?(53* '4*3? +2 ' ' =29 3)2 3? @('9 4)3! ' '9 2)94 '56)'3? '** +3 2)3 +2 2 94** 4:

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08*- 2-/ B ,1 8"41 06 8(, -1 4"** 51.,"5- ,"@1)118 60.41:6.04 8;2.

11 5 N +. '1./ +,0 .1!"'1: 51(2! ". ' 1-06 4"881.-'-0 6! 87 "- ',1 (2-'04 06 7.11' 87 .1!"' @1- < ', " D -- SH!2'".(,

)(9939 2*? ' /3 =29 +3 :47*?3 4: 453IJ *? +'9 579 +2;3 @33* +3 *4 '4* 4: 3 2/)'?39 4* '/79 :2 +3 @3<'**'*< 2*? 4: '*< #353 '79 +3 39'3<3 . 944* 2: 3 +3 5'??)3 4: +3 :': + /3* 7 ($ =+4 /2**4 6499'@)(+2;3 9766493? +2 +3 452*9 =3 3 4: 33E 4 '<'* '* 2*(4 +3 =2(4 2 /4)4*(4: +3)2 3 9 '/)(33E '@39 //4 ?'*< 4 +3 33E 54?3 4: +'*EC '*< ' =29 2 64)' '/ 53 +4? 4: <2'*'*< '*:)73*/3 4;3 64=3 :7 @2 @2 '2*9 =+4 =47)? *4 97@5' 4 @3 /45C 52*?3? 4 32 +35 29 4: 33E 3A 2/ '4*G +'9 =29 +3)29 3:'*353* 4: :)2 3 ((T +393 2//47* 9 +3 4,2*)3<3*? '9 3A/)7?3? 1) =29 4*)(2 2 ;3 ( )2 3 63 '4? +2 +3 4,2*9 2: 3 +3(+2? 3* ' 3)(?'926C 632 3? @3<2* 4 @3 3/E4*3? 254*< +3 33E9 /()2A 3 59 +3)('*'2*9 4: '/')(4,2*9 2*? @2 @2 '2*9 I % 45 +'9 33E)3<3*? 452 2*? +3 @7 *'*< +3 9+'69 =3 3 2*9:3 3? @(2))'29 4 +3 4,2* 4*3

  9'5')2 53?)3('6 3;5)9 '* (/46+ 4* I =+4 '* 4C ?7/39 2 @2*? 4: (9'2*9 7*?3 +3 94*9 4: 3)36+79 2 /+4* 2*? (+3*79 +2 '9 4: (+3*'2*9 3)3C 6+79 +'593): =29 4: /2?'2* ?39/3* $ 2*? +3 3 3'2*9 =3 3 6 4@2@)(2 ?'::3 3* 6346)3 : 45 +3 (9'2*9 29 +3 34*'2*9 =3 3 : 45 +3 (?'2*9 2)94 4//7 3? 29 #'4*(9'79 3))9 79 '* +3 /+ 4*'/)3 =+'/+ :4))4=3? +3 97//399'4* 4: +3 J;3 6 '39 39939 * +'9)<3*? +3 :47*?3 9 4: +3 /4)4*(2 3 4,2*9$ '* (/46+ 4* +3 @ 4 +3 9 +3 4::96 '*< 4: ' *329$ '* +3 <';3

M2"1-' 04 N 5 N) #/ 42- ,"@1 ,": 40.1 ,"8 -251.6 ("! D80+!1:71 06 041/ "!',027, ,1 ":05'1: ',1 !1718:-06 ',1 '"! "8 C.11D- 08 '-"8' 92 ' 1-

042- SL18"70."- 8 08*- 2-#3 04"82- SH!2'".(,# ," 042- - " 8"' 08"! 8"41 ,1.1/ - 5.0@1:)* ',0-1 06 , -).0',1.- .:18- "8: 8' "-? -0 '," L18"70."-)1!087- '0 ',1 824G)1. 06 ',0-1 +,0 "--1.'1: ',1 *..,18 "8 (,"."('1. 06 ',1 ('*

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/+ 4*'/)3 J*329 +'593):6 +3 33E9 2 3 /4562*'4*9 4:
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45 ?79 2*7 3579$:4 2 '*79 =+4 '* +'9 9+263 4:
+3 9 4 (' '9 2<2'* 92'7 4 +2;3 @33* +3' :2 +3 @(' +3
4,2* +3 4'*3 452' '9 3 537 +3 < 2*?94* 4:)(9939
+ 47<+ 3)352/+79
62 : 45 2))+393 = ' 3 9 9 2*?9 /()2A Y =+4 266
6)'39 +3 3**4@)'*< 36' +3 ' ';'" 4 3;3 (' /' ('4: 33E
4 'J* 3;3* =+3* ?3< 2?37 @(' @2 @2 '2* /4*R739 2*7
=+4 /2))9 +3)(5'2*9 4,2*9 Y'2*7 4 +3 9 =+4 2/6
/4 ?'*< 4 #'4*(9'79 29/ '@37 453 4 +3 (+3*'2*9 I6
+2 '9 4 92(' 'J)'E3 /()2A +3(' 532* +3 79/2*9
+2;3 92'7 +2 '52379 9335 9 4 +2;3 @33* +3
:' 9 +'9 4 '2* 254*< +3 33E9 =+4 '* 47?7/37 46
57)79 2*7 3579 '* 4 +'9 4 (' 29 354 3 ?39/3*?2* 9
4: '*329 3 = 4 3 *4 52*(' (32 9 2: 3 2))'29 @7
/2**4 +2;3 2?46 37 +'9 46'*'4*6 :4 +3 44E +3 @7')?6
'*< 4: 453 4 @3 /4* 3564 2*3479 =' + +2 4: 2 6
+2<3$ 2*7 +3 ?2 37 +3)2 3 *32)(' (32 9 2: 3 +3
>?39 7/ '4* 4: 4(' +3 9253 2//47* +4=3;3 52('
63 +9R'9 +2;3 @33* <';3* @(' '3 4*(579 4: 2 ?'2 =+4
'* +'9 +'9 4 (' 4:)3A2*?3 09 97//3994 9 = ' 3* 2@47
+3 '53 4: '52379 <2;3 2 9+4 9E3 /+ 4: +3 32)('
+'9 4 (' 4: 453 #'4*(9'79 /3*97 39 ' 9 532< 3*399
29 =3)9 29 +2 4: '5237 2*7 4)(@'79 '* =+45 +3
*2 2 ';3 +27 2) 32?(' @3/453 54 3 /46'479 I %4 +'5
93 +3 =2 *9 +3 32?3 9 4: +493 + 33 = ' 3 9 *4 4
97963/ +'5 4: :2@ '/2 '*< 9+47)?7 +3(':'*7 54 3 '* +'5
+2* '* +35 @7 +3 ?439 *4 67 +3 /293 4: +3' '
3)2 '*< =+2 =29 4 2))(' ?'::3 3* &3 3;3* 2: 3 +3'

,1.1'".1 -041'0',1.-'"'1418'-(08(1.8 87',1 6028:"' 08 06
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',0. 8 08*- 2-/',1 -08 06 '"!2-"8:'06 !1('."/',1 :"27,'1.'06
8' 82-3 ',"" -'0 -"*/ :41 +"-'"5. 41@"! '"! "8/ "8:' .0I"8
('* H1. 5!'5' 11 ")0@1/ 80'1 FB B

' 4)?' 452*')3<3*?' 2*' 29' :4))4=9' 4/29' E'*<'
4:')@2')3:' =4' 94*9' 75' 4 ' +3' 3)?3 ' @3'*<' =32E'
2*?' 96' ')399 .' 97::3 3?' 57)'79' 4' = 39' +3' <4;3 *53*'
: 45' +'5' 2*?' 3?7/3' +'5' 4' +'9' :2 +3 09' 6 ';2 3' 39 2 39'
' +3' 3,4(53*' 4:' +393' +3')';3?' '/+' 2*?' 29' +3' ?3C
9' 3?' *4 +'*<' 54 3' 93/7 3C @7' +3' 797 63' ? 32?3?' +3'
/)2'59' +2' 5'<+' @3' 93' 76' @(' +3' 9' 4:' 2' ?'::3 3*' /+2C
2/ 3' 3' +2?' 75' 4 09' 94*' 5'7 ?3 3?' 2*?' 2664'* 3?.'
+'9' ?27<+ 3 ' ');'2' 4*3' 4:' +3' ;39 2)' ;' <'*9

57)'79' +2?' *4' /+')? 3*' 4' 2')329' 4*)(' 4*3' ?27<+C
3 -' 94' +2' +3' 2/3' 4:' */+'939' 2*?' 6+ 4?' 3' 93353?'
4*' +3' 64'* ' 4:' 3A6' '*<' =+3*' +3')4;3' 4:' 2' <4?' 6 4)4*<3?'
' ' '*' ?396' 3' 4:' +3' 4 ?'*2*/39' 4:' 52*' 2*?' <2;3' ' 2'
)79 3'=4 +(' 4:' ' 9' 4 '<'*' ');'2' +2?' <4*3' '* 4' +3' 92/ 3?'
< 4;3' 4' ? 2=' =2 3' : 45' +3' 96 '*<' :4' +3' 93 ;'/3' 4:'
+3' 356)3' +3' 97*' R73+/+' ' 9' 2(9C +3' 9'<+' 4:' 2'
=4):' 52?3' +3' :)(' '* 4' 2' /2;3' C +3 3' 2 9' 4;3 64=3 3?'
+3' '5'?' ;' <'*' 2*?' +3*' /4*94)3?' +3' =' +' +3' 6 45'93'
4:' *4@)3' /+')? 3*' 29' 49'?4*' /4*94)3?' (4' +3' ?27<+ 3'
4:' 2)54*379.' 7' +3' ?'?' *4' 6 4 3/' +3' : 45' +3'
(2* $ *4' /47)?' +3' 6 4 39 2 '4*9' 4:' +3' '**4/3*/3' 92;3'
+3' "39 2' +3 93):' 93353?' 4' ?352*?' +3' /4*?35*2 '4*'
4:' +3' 7*:4 7*2 3' 6 '39 399$:4' 2' +3' 5453*' =+3*

W' ' 8- -" 8')1,"!6'06'4*' 04"8-'0,' ',1'. 7,"'06'(0!!1(' 87' ',1'
501' ("!' 61"'2.1-' 06' ',1' -'0.*/ +,1.1@1.' ',1*' ".1' '0')1' 6028:/ +,18'
',1*',"@1':.05"02" 06' ',1' (04408' 8".."' @1' 8' ',1' 5.1-18" ("-1'
',1*' ".1' 5.1-1.@1:')*' 1.@ 2-/ 08' 66 8' ' 3' ',1' 1(! 5-1/ ,*' 0C
8*- 2-/ ' N/"8:')*' H!2'".(,/ 042!' (' B

A' 041./ :' L ' F

9+3 =29 ?3)';3 3? 4: ='*9 +3 '52<3 4: +3 <4??399 +'?
' 9 3(39 +3 2) 2 35@)3? 2*? +3 :' 3 ?'3? 2=2(I..
57)'79 4 ?3 3? +2 +3 54 +3 2*? +3 @2@39 9+47)?
@3 ? 4=*3?'* +3 ';3 .. * +3 *'4 ');'2 3A/+2*<3?
+3 32 +)( ):3 :4 +2 4: 2 <4??399 +3 ';3 /2 '3?
+3 @4)3 4 / 2?)3 '* =+'/+ +3 /+')? 3* =3 3)('*< '* 4
+3 '@3 =+'/+ +2? 4;3 :)4=3? ' 9 @2*E9 :2 2*? ='?3
3;3* 4 +3 :44 4: +3 =44?(+'))9 +3 44 4: 2 =')?
:'<B 33 +3 %'/79 75'*2)'9 =)7/+ =29 6 393 ;3? 2*?
+3)?92/ 3? :4 52*(/3* 7 '39 2 +3 :44 4: +3 2)2 '*3
+3 / 2?)3 4;3 7 *3? 9+3=4): /253 4 ? '*E 4: +3
9 3255$ 9+3 +32 ? +3 =+'563 '*<4: +3 /+')? 3* /2 '3?
+35 '* 4 +3 ?3* +2 ? @(.y 52?3 2 @3? :4 +35)'/E
2*? 97/E)3? +35 +3* +3(=2* 3? 4 +3 :44? +2*
5')E 2 =44?63/E3 +3 @' ? 92/ 3? 4 2 9 @ 47<+
.' 4 +35 +3 @' ?9 /4*93/ 2 3? 4 27<7 '39 +4;3 3?
4;3 +35 4 ? ';3 2=2('*93/ 9 +'9 52 ;3))479 963/C
2/)3 =29 933* @(%279 7)79 +3 9+36+3 ? 4: +3 4(2)
:)4/E9 +3 9+3=4): ? 3= @2/E 2*? <2;3 76 +3 /+')C
? 3* 4 +752* *7 7 3 //2 2 3* '2 +'9 =':3 @3C
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(02!:80 ","@1)118 8@18'1:'06 81+)0.8 86"8'- 11 "!-0 H!2'".(,/
M2"1-'U 09U (' ; ;

=3);3 94*9I.. 4* +3 2)2 '*3 +')) '* 9 2= +7 9 =+'/+
+3(' @7') :4 +35 93);39 +2 4: 457)79 =29 6 393 ;3?
@(' /4* '*72) 362' 9 29 2 92/ 3? 3)'/ ?4=* 4 +3 '53 4:
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@ 2;3)(' 2<2'*9 ='))? @329 9 2*? 4@@3 9 52'* 5*'*< +3'
'<+ 2<2'*9 3;3 (' 4*3 @(' +3' 5'<+ 2*? 7 *'*< 5'<+
'* 4 '<+ +3' @44 (' +3(' 9+2 3? =' + +3' /45 2?39
+3 :4))4=3 9 4: 457)79 =3 3 /2))3?B w7'*/ ')'' +493
4: 3579 %2@''G +3 933?9 4: ?'9/4 ? =3 3 944* 94=*
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67 39 =' + +3 9+36+3 ?9 4: +3 =32) +(' 75'4 =+4
:3? +3' :)4/E9 4* 547* (3* '*3$ 94 +2 +3 3 29 '*
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=33* +3 2)2 '*3 2*? +3 ;3* '*3 '* +3 2)39 4: +3
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+393 9+36+3 ?9 2*? ? 2<<3? 4)@2 29 2 4@@3 .
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4 : 45 6 4*47*/'*< 2 +29 (' 93* 3*/3 +3 /7)6 ' 09
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+3 4)? 52* 2*? +3 (47 +9 4: +3' E'*? 3? +3('
394);3? 4 2;3*<3 +3' 4=* = 4*< 2*? +2 4: +3'
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3?7/3? 4 2 6499'@)3 3;3 (?2(' 4//7 3*/3C @7 =3 47<+
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U"-2. 2 ") 82-/ 920'1:)*C1!! 2-/ @ B
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=')‘ 352'*‘ =')‘ @3‘ 2*(+'*< @7 ‘ 2‘ +'9 4 '/2)‘ :2/ ‘ (+4C)4<'/2)‘ 2)39‘ 4:‘ +'9‘ 94 ‘ 2 3‘ 5'9 (‘ 9+2639‘ 4: 3*‘ *4‘ 54 3‘ +2*‘ 2‘ %2 2‘ 4 <2*2‘ +3‘ 6 4 4 (63‘ 4:‘ =+'/+‘ '9‘ '*;'9'@)3‘ +3‘)2=‘ 4:‘ ' 9‘ 3: 2/ '4*‘ 7*E*4=*G 2*?‘ 3;3*‘ =3 3‘ ' ‘ *4 ‘ 94‘ ' ‘ =47)?‘ 9 ')‘ 97 629‘)'3‘ 64=3 ‘ 4:‘ 3:)3A'4* ‘ 4‘ 6 4/33?‘ □‘ 97@)(‘ 2*?‘ 9E'))(‘ 29‘ 4‘ ?';'*3‘ +3‘ 7*E*4=*‘ 4 '<'*2)‘ : 45‘ +393‘ 9 2*<3)(‘ @)3*?3?‘ :4 59‘ 7 ‘ 97/+‘ 52<'/2)‘ 9+2639‘ 2 3‘ ?'::3 3* ‘ : 45‘ 53 3‘ ? 3259‘ 2*?‘ 2 3‘ *4 ‘ =' +C 47 ‘ 2‘ +'??3*‘ < 47*?‘ 4:‘ 32)‘ 7 +‘ +3‘ *253‘ 4:‘ ? 3259‘ @3)4*<9‘ 4‘ +3‘ :'/ '4*9‘ '*;3* 3?‘ @(‘ +3‘)2 3 ‘ 33E9‘ =+3*‘ +3‘ 2?' '4*‘ +2?‘ @3/453‘ 3A '*/ ‘ 2*?‘ =+3*‘ '*?'C ;'?72)9‘ '*?7)<3?‘ 2‘ =2* 4*‘)'/3*/3‘ '*‘ 2) 3 '*< +3‘ 4)?‘)3<3*?9$ *4 ‘ /4*9'?3 '*<)'2 +3' ‘ ?';3 9' (‘ ,6'?‘ 57) 'C 6)'/' (‘ +2?‘ @33*‘ +3‘ =4 E‘ 4:‘ +3‘ =+4)3‘ 6346)3‘ 2*?‘ =29‘ *4 ‘ 2‘ 52 3 ‘ :4 ‘ '*?';'?72)‘ /26 '/3‘ 4‘ 53??)3‘ =' +

4;3‘ :4 ‘ +3‘ +453‘ =+'/+‘ :2 3‘ +2?‘ 299'<*3?‘ +35 ‘ ? 3=‘ +3‘ (47 +9‘ @2/E‘ 4‘ +3‘ @2*E9‘ 4:‘ +3‘ '@3 ‘ 4‘ :47*?‘ 2‘ /' (‘ +3 3‘ +3‘ 3 ' 4 '39‘ 4:‘ +3‘ 54 3‘ 2*/'3* ‘ 4=*9‘ '*‘ +3‘ *3'<+@47 +44?‘ * 35*23‘ %'/7)32‘ 3))3*2‘ /4*:'*3?‘ +35‘ 4‘ 2‘ *2 4=‘ ?'9 '/ ‘ +2 ‘ 4:‘ 453‘ /2**4‘ +2;3‘ 3A 3*?3?‘ 2 ‘ :' 9‘ '*‘ +3‘ ?' 3/ '4*‘ 4:‘)@2‘ 94‘ :2 ‘ 29‘ %39 ' ‘ 2‘ 6)2/3‘ @3 =33*‘ +3‘ :': +‘ 2*?‘ 9'A +‘ 5')39 4*39$ =+3 3‘ 29‘ 2 ‘ +3‘ @4 ?3 ‘ 4:‘ +3‘ 4 '<'*2)‘ ‘ (‘ +3‘ 5B +2 ;2)'2‘ =3 3‘ 94)35*'H3?‘ (32)(‘ '*‘ +3‘ 3'<*‘ 4:‘ '@3 '79 I !J‘ +3‘ 9+36+3 ?9‘ +3' ‘ 4)?‘ /45 2?39‘ =3 3‘ +3' ‘ :' 9‘ /' 'C H3*9‘ +3‘ 9 4 (‘ =+'/+‘ 52E39‘ +35‘ ,4'*3?‘ @(‘)@2*9‘ *2(‘ 3;3*‘ @(‘ 4,2*‘ *4@)39‘ '9‘ /3 2'*)(‘ *4‘ 62 ‘ 4:‘ +3‘ 2*/'3* ‘ 2?' '4*G +3‘ 7)'" 2*?‘ 4 +3 ‘ 9'5')2 ‘ +47939‘ ?4‘ *4 ‘ 26632 ‘ '))‘ 2: 3 ‘ +3‘ ?39 7/ '4*‘ 4:‘)@2‘ 3'*<)3:‘ 4‘ +3593);39‘ =' +‘ 3R72)‘ 27 +4 ' (‘ 2*?‘ 64=3 ‘ +3‘ @ 4 +3 9‘ ?'967 3?‘ =+'/+‘ 9+47)?‘ +2;3‘ +3‘ +4*47 ‘ 4:‘ @3'*< +3‘ :47*?3 ‘ 4:‘ +3‘ /' (‘ 2*?‘ 4:‘ /2))'*< ' ‘ 2: 3 ‘ +'9‘ *253‘ 452‘ 4 ‘ 354 '2$ 2*?‘ =+3 +3 ‘ ' ‘ =29‘ 4‘ @3‘ @7') ‘ 4*‘ +3‘ 2)2 '*3‘ 4 ‘ +3‘ ;3* '*3$ 4 ‘ 2//4 ?'*< 4‘ 2*4 +3 ‘ 2?' '4* ‘ =+3 +3 ‘ 4*‘ +3‘ 2)2 '*3 ‘ 4 ‘ :47 ‘ 5')39‘ :7 +3

?4=* +3 ';3 0.. 2/+ 4@93 ;3? +3 +32;3*9 : 45 +3 46 4: +'9 /+493* +')G +3 =+45 +3 27<7 (:2;47 3? =29 4 ?3/'?3 29 E'*< 63 94* =+4 947<+ :4 27C 96'/39 +2? 4 '93 '* +3 9 ')*399 4: 5'?*'<+ 4 52 E 47 +3)'5' 9 4: +3 /3)39 '2) 356)3 '* +'9 5'*? 2*? +3** 4 =2' :4 6 392<'*< 26632 2*/39 +3 =+4)3 ?2(629 2*? +3 :4))4='*< *'<+)3*< + 3579 +2? +3 :' 9 27<7 (2*? 92= 9'A ;7) 7 39 :)('*< : 45 *4 + 4 947 + 7 2 97* '93 =+3** +393 '?'*<9 =3 3 @ 47<+ 4 457)79 2 :)4/E 4: =3);3 ;7) 7 39 :)3= @(+'5 '<+ =29 4** +3 9'?3 4: +'9 @ 4 +3 G @7 457)79 @429 3? 4: +3 ?47@)3 *75@3 4: +'9 @' ?9 29 2 6)2'* 6 44: 4: ?';'*3 :2;47 $ 2*? +'9 62 (@3'*< +3 9 4*<3 /4*:' 53? +'9 797 62 '4*! I

 9335 9 29 ': +'9 27<7 (4: +3 =3);3 :2 3? @' ?9 +2? 4 '<'*2))(@33** 2 643 '/2) 54?3 4: 3A6 399'*< 2* 79/2** 6 46+3/(+2 =3);3 93/'39 =3 3 +3 63 '4? 2))4 3? 4 453$ 2*? 29 ': +3 2))3<4 (+2? 2: 3 =2 ? 29975 3? +3 9+263 4: 2)3<3*? 2*? +3** @33** 3A647*?3? @2/E 2<5** '* 4 ' 9 :' 9 532*'*< +'9 =29 ?4*3 3;3** '* "2 409 '53 @(2 /3)3@ 2 3? 27<7 *2533? "3 '79. I +3 6 46+3/(=29 *3;3 :4 <4 3** 2*? '** +3 =3): + /3* 7 (4: +3 /' (=+'/+ '9 ?';'?3? @3 =33** +3 :47 + 2*? :': + 4: 47 3 2 :'))3? 2) +3 2?+3 3* 9 4: +3 4)?

, - +02!: 5.0)")!*)1 ', 1 , !!)1*08: H"0!0 , "@1 80 :02) ', " ', 1.1 +"- 5!"(1 ("!!1: 140. "3 "8:(', - 14 818(1 - +1!! ": "5'1: 60. '0+8/ ', 1 " .)1 87 ,1"!', * 88 2- '00 42- , "@1 , ": 40.1 : -'"8 -50 8 , - 4 8:'3 60. + ', , 4 042!2- 4"D1-) - 0)-1.@"' 08- 4** ', 1 @18' 81/ 5 F , - "((0.: - + ', ', 1 !1718: 06 ', 1 I"@1! 8/ +, (, 042!2-/ "6'1.' "D 87 ', 1 "272. 1-/ ,2.!1: '0 ', 1 H"!"' 81/ +, 1.1 (" 27, ".00'/ "8: + , 1.1 ', 1 (0.81! '.11 +, (, -5."87 6.04 +"- , 1+8 :0+8 '0 ', 1 ' 41 06 "! 72!" 1.@ 2-/ 08 +! 8 N H!2'".(, / 042!' (.724 1'"4 L 6")

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3)'<'4* =' + 2)2 5$ 2 3;3 (+'*< =2 52*':39)(;3 <'*<
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@ 4E '* 0;' + + :': + /3* 7 (4: 47 3 2 <2; 2* 2'
4: 6 4@2@')' (4 +' '* 3 6 3 2 '4* '* + 5'*?9 4: 63 C
94* +3*)';'*< 2 79/2*B2 7963A =47)? +2; 3,3/ 3?
'   9 2* 2;3 2< :4 93/'39 4: 2* '*?3:'*')3*< +
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2* 29 4*45'/2) /(/)'/2) 63 '4?'   =2 + 6 463
75@3 4: (32 ' 2 93/) I')' +' 2'939 + 975 4:
+493 /4* 2'*3? '* + =3); 93/'39 4   2*? @ '*<
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457)7 /329 4 3A'9   //4 ?'*< 4 "2 40 /+ 4*4C
)4<(+ =3): + 93/) =47)? +2; 3*?3? =' + mm
2//4 ?'*< '*/'79 4 =+45 + 79/2* 4* < 47*?
=+'/+ =') 26632 :7 +3 4* =47)? 6 4@2@)(+2; <';3*
+ 6 3:3 3*/3 =' + \ + :' 9 (32 4: + 64*C
':'/2 3 4: 3<4 (+ 32 * 3' +3 /293 + 63 '4?
3A6' 39 '* +)2 3 +2): 4: + 9'A + /3* 7 (4: 47
3 2$ =+3* + /' (2: 3 +2;'*< @33* 54 3 +2* 4*/3
2E3* @(9 4 5 92= + 35*2* =+45 + 9=4 ? +2?
962 3? =29 '*< 2=2(@(+7*<3 2*? 639 ')3*/3$ =+3* +
93*2 3 2*? + 352'*'*< 4)? :25')'39 +2? @33* 3A 3 5'C
2 3? @(4 ')2 94 +2 3;3 + *253 4: 93*2 4 2*?)'3
9+2?4= 4: 2 57*'/'62) /4*9 ' 7 '4* =29 9/2 /3)(6 393 ;3?$
=+3* 453 =29 97@,3/ 3? 4 + ?3< 2?'*< 7)3 4: 2*
29 3 * 3A2 /+ 39'?'*< 2 2 ?'9 2*/3 : 45 +3 $ =+3* +
4)? 3)'<'4* 2*? 2)) +3 3?' 2 (792<39 =3 3 2@4)'9+ 2*?
2 *3= 3)'<'4* =29 6 32/+'*< 4 +3 ;' 739 2*? 2*4 +3
E'*? 4: +266'* 399 3A/)79';3)(2*? =29 /4*?35*'*< 9'*9
7* 36 4;3? @(+ 54 2)' (4: 32)'3 '539$ =+3* + 2*C
/'3* 9/'3*/39 2*?2 9 2)) 4)? 5354 '2)9 2*? 54*753* 9

m

=3 3)44E 764*2 29 2@45'*2 '4*9 +3 < 32 53*4::4 C
53 2<39 29 +463)399)(?44537 4 63 ?' '4*$ 2*? 453
+2;'*< @33*? 36 ';3? :4 3;3 4:2 59 =29 @3/453 +3
/26' 2) 4: 2 96' ' 72) 356' 3 =+'/+ 2: 3 +^)2693 4:
=3);3 54 3 /3* 7 '39 =3 +2;3 933*' '* 3 76 3? '*' 47
P??2(9 3 +269 +3 79/2*' =47)? 2)94 +2;3 '* 3 6 3 3?
+3 9'A 93/'39 /4 3964*?'*< 4 +3)3<' '52 3 27<7 (' 4:
3579 29 :4 39+4='*< +3 ?7 2 '4*' 4: +3)3<2) 2*?
: 33 /4*9 ' 7 '4*' 2*? +2;3 3/E4*3? +2 +3(' 3A 3*?3?
?4=*' 4 +3 '539 4: ())2 4 4: c92 %4 3;3 (' '*C
3 6 3 2 '4*' 4: 2 6 46+3/(' 3R7' 39 : 33 445$ 2*? +'9
5'<+ +2;3 @33*' ,79 ':'3? '*' 3' +3 =2(

+3 :47*?2 '4*B?2(' 4: 453 =29 /3)3@ 2 3? 4*' +3
:39 ';2) 4: 2)39 +3 9 4: 6 ')$ =+3*' +3 /47* (
6346)3 +3 32)'39 '*+2@' 2* 9 4: 453 @3947<+ +3
<4??399 4: 9+36+3 ?9 4 6 4 3/ 2*?'*/ 3293 +3' :)4/E9
2*? 4 62 ?4*' +3' '*;4)7* 2 (' ;'4)2 '4*' 4: /4*93/ 2 3?
964 9 67 ':('*< +3593);39 @(' 6299'*< + 47<+ 2 9 2=B
:' 3$)'E3 +493 =+'/+ =3 3 E'*?)3?'*' +3 5'??)3 2<39
4*' 2(?2(

457)79 *4=' 93 2@47 ?3 3 5'*'*< +3 645 '75 IZ.'
3 :'A 2 /4663 9+2 3 4*' 2 6)47<+ (4E3? 2 @7))4/E
2*? 2 +3':3 4 ' 2*? ? 3=' 2 :7 4=' 47*? +3 :44 4:
+3 2)2 '*3 94 29 4 '*/)7?3 2 /4*9'?3 2@)3 /45629
@3)4=' +3 +') 3 =+4 52 E 47 2 645 '75 +2?
4 <7'?3 +'9 6)47<+ 94 +2 2)) +3 /)4?9 9+47)?:2)) '*C
=2 ?C +3 =29 :4))4=3? @(' 4 +3 9 =+4 44E /2 3 +2
*4*3 =29)3: 7 *3? +3 4 +3 =2(' *' +3 45' '75'
2 ;27) =29 +7') 7*?3 < 47*?' 2*? :'))3? =' +' :' 9)'*<9
4:2)) +3 *2 7 2) 6 4?7/ '4*9 +2 97664 +5*2*'):3

+ !! :161.' +,"' ','@1' '0' -"*' 08' ',1' 41"8 87' 06' ',1' 504 |G
. 24/"8:' 08',1' (02.-1' 06',1' 081"'.)2'1:' '0' 042!2-/',"' 4"*'
80' 8'1..25"',1'"((028" 06',1'!1718:' 11',1'1;'' '0' 80'1' B

Y' '! 81' :."+8')1'+118' '"8:' 5"(1-' 62.',1.'-02',/"8:'
5"."!!11!' '0' 081'.288 87'6.04' '". "')h."'. (1' '0' +,"' 2-1:' '0')1'
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',.027,' ',1' 04 '24

2*? =' + 32 + =+'/+ 32/+ 4: +3 :4 3'* 93 3 9 +2? @ 47<+ =' + +'5 : 45 +'9 +453 +'9 6)2/3 =29 /2))3? 7 + 2*? =29 +3 ?44 4: +3 *3 +3 =4)? =+'/+ =29 463*3? 4* + 33 93;3 2) ?2(9 '* +3!(32 :4)'3 96' 9 4: +3 ?32?I . .

* +3)'*3 4: +3 645 '75 +3 /' (=29 '*/)493? =' + 2 =2)) 2*? ?' /+ 3579 9 ')) 393* '*< +3 = 4*< +3 +2? 97::3 3?)326 '* 9/4 * 4;3 +3 67*(2562 %4 94 ?4'*< +3 =29 9)2'* @(3)3 4 @(457)79 +'5C 93):$ 2*? +'9 ?32 + =29 2* 453* +2 *4*3 9+47)? / 499 +3 =2))9 @7 4 +'9 4=* ?39 7/ '4* 457)79 +4=3;3 2@2*?4*3? +'593): 4 < '3: 3,3/ '*< /45:4 2*? :44?$ 7* ') +3 9+2?3 4: 3579 26632 3? 4 +3' :49 3 B62 3* 9 2*? 6 45'9 4 @3 3/4*/')3? 4 +'5 4* /4*?' '4* 4: +'9 '*9 ' 7 '*< 2 :39 ';2) :4 +3 947)9 4: +3 ?362 3?Z 9 2 63 52*3* 52 E 4: +4*47 2 93/4*? + 4*3 =29 93 76 :4 +'5' @(+3 9'?3 4: +3 E'*<09 =' + +3 9/36 3 / 4=* 2*? 4 +3 @2?<39 4: 4(2) (

+3 *3= /' (=29 + 4=* 463* 4 3;3 (9 2*<3 A')39 2*? :7<' ';3 +45'/'?39 =+4 /4554*)(/47)? 4*)(4@ 2'*)32;3 4 ?=3)) 29 94,47 *3 9 '* 2 :4 3'*)2*? 3;3* 7*2=2(9)2;39 2*? / '5'*2)9 :47*? 2 =3)/453 +393 :3))4=9 +4=3;3 =2* 3? =';39 457)79 '3? 4 :4 5 32 '39 =' + +3 *3'<+@47 '*< '@39 2 53297 3 *3/39C 92 ('* 2)(29 =3)) 29 '* 33/3 4 3*?3 52 '2<39 =' + :4 3'*3 9)3<' '52 3Z 6 @7 +3 =')? 97' 4 9 =3 3 3<2 ?3? =' + ?'9)'E3 2*? +3 ?2*<3 479 +4 ?3 +3(

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K .04 ', - - (!1". ', "/ 8 ', - 1".! 1- !1718:/ 041 +"- 80 (08- :1.1: 8- "8 !)"8 (0!08*/ 0. 8- " "' 8 ('*? 42(, !1-- +"- "8*', 87 -" : ")02 "8 14 7."' 08 06 80)!1 ,02-1- ": 041)118

@3)4*<3? 4 =' + ?'9 79   )'3 3:792) =29 3A6 39 '*C
97) '*<)(+3(' =+4 <2;3' ' :2*/'3?' 29 +3 +27<+ (' 2 3
=4* ' 4 ?4' +2 ' +3 +75@)3? 62 (' =47)? :33) /4*9/'479
4: ?393 ;'*< +3 3@7E3 :4 ' +3' ' 6 39756 '4* ' 3*/3
+3(' ?'?' *4 ' 3* 3 2'*' 2*(' 9796'/'4* ' =+3*' 457)79 6 4C
/)2'53? +2 ' :39 ';3 6 4/399'4*9 2*?' <2539 =3 3 4 @3
+3)?' '*' /3)3@ 2 '4*' 4: +3 4*972)'2QB\' 2*?' '*;' 3?' +'9
*3'<+@47 9' +3 2 '*9 2*?' 2@'*39' 4 2 3*?' +35'6 :4 '
453 9 44?' =+3 3 +3 3 ' 4 '39 4: +493 =4 *2 '4*9
0 2*' 4*3 '* 4 +3 4 +3 ' ' *75@3 ' 4: 6346)3 /253 29
4 2 :2' '6 '*?33?' :39 ';2)9 4: +'9 E'*?' =3 3 2)=2(9B :2' 9'
2*?' '*' 2)(' 29 '*' 33/3 2*?' '*' +3 29 ' =3 3 7*C
?3 ' +3 92:3<72 ?' 4: 3)'<'4*' 7 ' *3' +3 ' 3)'<'4*' *4 '
+3)2=9 4: +496' 2)' (' 6 4 3/ 3?' +3 ?3/3';3?' 9 2*<3 96
+3' ' 52'?3*9 =3 3 /2 '3?' 4::0 l' +3 4)?')3<3*?' 964E3
4*)(' 4: +' (' /26 ';39 6 +'9 /2**4 ' @3 ?3*'3?'$ @7 ' ' +29
@33*' 2?5' 3?' =' + 3)7/ 2*/30. 3;3*' @(' ';($ +47<+

"' (0!08*/ +02!: ,"@1 ,": ',1 . 7 ," 06 8'1. 4".. "71 + ',' " ! '! 1
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)'3 397) 9 4: +'9 2 356 =3 3 ;3 (;2 '479 * +3)3<3*? 4: 457)79 +3 7 * =29 <';3* 52'*)(@ (';(+3 =2('* =+'/+ +3 643 '/2) 2)3 4: ');'2 2*? +3 /+')? 3* ?4=* 4 +3 ;3*<32*/3 '*:)'/ 3? 4* 57)'79 =29 53 254 6+493? 52(@3 933* '* #'4*(9'79 2*?)7 2 /+ @(2*(=+4 /2* 4;3 /453 +3 ?'9<79 '*C 96' 3? @(;7)<2 ?7)*399 6 '?'*< ' 93): 4* ' 9 9763 '4 ='9?45 ';(+29 *4 /4*?39/3*?3? 4 53* '4* ' 2*? +3 3@(+29 /4*?35*3? ' 4 4@9/7 ' (*:4 7C *2 3)(+3 +29 *4 32 3? +3 3A6)2*2 '4* 4: +3 ?'926C 632 2*/3 4: 457)79 =' + +3 9253 /4* 356 $ 2*? +3*/3 ' +29 2E3* ?336 44 ! !)'2 2 54 2 52* 9+47)? @3 /)4 +3? =' + 2 2?'2* @4?(2*? /2 '3? 76 4 +32;3* =29 4: /47 93 '56499'@)3 7 29 4 +3 93/ 3 2*3/?4 3)'2 +3 93*2 4 9 57 ?3 3? +3 E'*< ?7 '*< +3 <)445 4: 2 35639 Y ' =29 *4 3;3* 2* 3/)'693 Y +2 +3(4 3 +'5 6'3/3532) 29 3* +379 =29 45 @(+3 2//+2C *2)'2*9 2*? +2 +3(/2 '3? 2=2(+'9 @)44?( )'5@9 +'?C ?3* 7*?3 +3' <4=*9 Y '*3' +3 =29 +3 ?33? ?3353? 6+(9'/2))('56499'@)3 *4 @3)42 +9453 6'3/3 4: 52*<)'*< @7 /+3 (54 2))(94 * +3)2 3 = ' 3 9 =3 /2**4 +3)6 @3'*< 97 6 '93? 2 +'9)'2 2 9 4 (94 2 4/'479 9)'47)? +2;3 @33* :2@ '/2 3? '* 2*/'3* 453 '9 2*T'*C 9 2*/3 +4= :33)'*<9 2 3 64'94*3? @(62 (2*'549' (G +3 62 '/'2*9 =3 3 +3)? /262@)3 4: +3 =4 9 3*4 5' '39 +3 ?32 + 4: 3579 =29 52?3 47 4 +2;3 @33* 2 5'9C /+2*/3 ?7 '*< 2 /';') :37? +3 2@'*3 =2 < 3= 47 4: +3 /4* 39 9 4: 2 :3= ?2(9 '* 4 2 3?'479 +2 ?:47<+

',14-1!@1- + ',',1 - 45! ('*06',1 .'"8(1-'0.-á 4087',0-1 +,0 +1.1 8("5")!1 06 :0 87-0/ ',1 :2!! 6"!- 6 1.- 06 , -'0.*".1 80" 40.1 06618- @1/ ',"8 ')1 418 +,0 ,1!5" ',14-1!@1- 02 + ',' 5812 4"'0 !07*/ -2(,'"- +1 6 8:' '."(1- 06 8 08*- 2-? +,1.1/ 8-'1":' 06 ".- C.": @2-/ +,0-1 51.-08"! '* ',1* +1.1 "-,"41: '0 ": 4 '/ -041 :1408/ Y +,0-1 1; -'18(1 +"- 7181."!!*)1! 1@1:/ - -" : '0 ,"@1)118 ',1 6"',1.' 06 ! "J- (, !:.18 18 (02!: .1(08(!1 % 14-1!@1- '0 ', -)1! 16 8 70)! 8-/ 0 " !1 -" '0 5.061-- 87 'H "8: ',2- 1661('1: " (045.04 -1/ "8: 1@18 "8 "!! "8(1 + ',) 70'.*

/2562'<* 0;')" 6' /+ @2)39 @3+;33* < 32 2 5'39 4 @'9 =2 '94SJ. 3:3 3? @3 4 <'* 4: +3 7 I2*)2E3 +2 +3 5'<+ '? 452* +'9 4 (4: 2*4 +3 +3 4'/)3<3*?G 2//4 ?'*< 4 +'5 3 79 7 '79 2 2@'*3 2)549 92*E =' + +'9 +4 93 '* 4 +3 9=256 +3 9253 '94 3A2) 3? 2 63'2 : 45 2 ;3*2) 2' 399 '* 4 2 +3 4'*3 +47<+ 2* 7 3)(93*93)399 2*? 52? 4*3 =+493 67 6493 =29 4 92C / ':'/3 +3 93): :4 +3 /47* (

4 97/+)3*< +9 /47)? 3;3* +4*39 53* <4 =+3* ?3C ;4'? 4: 7*?3 9 2*?'*< 4: 33)'*< 2*? 4: ,7?<353* 7 2: 3 +393 +2? 62;3? +3 =2(/253 +3 27?2/'479 :4 <3 9 =+493 2/39 2 3 3963/'2))(;'9'@)3 '* +3 *75@3 9 ';(+'593): =+3* 9632E'*< <3*3 2))(32 9 +3 3*4 5479 *75@3 9 :2@ '/2 3? @("2)3 '79 * '29 =' + /4* 356 $ +47<+ +3 '9 *4 4* +'9 <72 ? 2<2'*9 +35 '* 697 '/7)2 /2939 9 =4 +)399 29 2*('9 +'9 9 2 353* 2*? 7@209 2@47 +3 *75@3 4: +3 2;'9+ ;' <'*9. IG 2*? +'9 9'))(3A2<<3 2 '4*9 2 3 3R72))(52*':39 '* +3 *75@3 9 4: +3 2 5'39 ?7 '*< +3 2@'*3 =2 2*? 4: +3 :4 /39 =+'/+ 457)79 +2? 2 +'9 /4552*? @3:4 3 +'9 ?32 +

 25 94 (4 +2;3 @33* 4@)'<3? 4 92(94 57/+ 4* 97/+ = 3 /+3? 97@,3/ 9G @7 ' ' '9 '564 2* 4 9)'3= +3 *2 7 3 4: +2 '?4) @3:4 3 =+'/+ 254*< +3 /+2*<39 4: :29+'4* 47 649 3 ' (52(63 +269 @3 3R7' 3? 2<2'* 4 @3*? +3 E*33

 3 7 * 4 +3 4)?)3<3*? +3 93*2 3 2 :' 9 =47)? *4 2))4= +3 3)3/ '4* 4: 2 *3= E'*<G 3;3 (93*2 4 =29

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6 399';3)(' +2*' @3:4 3' =3 3' ;3+353*' '*' ?352*?'*<' +3'
3)3/ '4*' 4:' 2' 94;3 2'*' 4' 6 4 3/' +35' +3*' +3' 93*2 3'
63 5' 3?' ' ' 4' @3' +3)?J +3' 452*9' 2*?' 2@'*39' ?'9C
67 3?' 47' 4:' =+'/+' *2 '4*' +3' E'*<' 9+47)?' @3' 2E3*' '
=29' 2< 33?' +2' +3' :4 53' 9+47)?' /+4493' +'5' 47' 4:'
+3')2 3 $ 2*?' 2)' ;4'/39' /4*/7 3?' '*' *25'*<' +3' ='93'
2*?' 6'479' 752' 456')'79' 4:' 7 39$ =+4' +2?' 52 '3?'
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+3' ?'9/47 93' 4*' +3' 32)(' +'9 4 (' 4:' 453' =+'/+'
'/3 4' 67 9' '* 4' +3' 547 +' 4:' /'6'4' '9' 3* ' 3)(' 2E3*'
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9729'4*' +2' 752' +2?' @33*' +3' ?'9/'6)3' 4:' (+2<4 29'
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2' 453' +2' +3' '3?' 4' 6 4;3' +3' '56499'@')' (' 4:' +3'
:2/' @(' 2' /+ 4*4)4<'/2)' ?3?7/ '4*' =+'/+' =29' @4 4=3?'
: 45' +'5' @(' #'4*(9'79' +3' 9253' 63 9729'4*' +3 3:4 3'
579'6 4@2@)(' +2;3' @33*' 9+2 3?' @(' 2 4' =+4' 3;3*' +47<+'
2/R72'* 3?' =' +' +3' /+ 4*4)4<'/2)' 2@)39' 4:' 2 49 +3*39'
5'<+' ;3 (' 6499'@)(' @3' '<*4 2*' 4:' +3' 2<3' 4:' +3' 25'2*'
(+2<4 29' *:4 7*2 3)(' 4)(@'79' /2*' +2 ?)(' +2;3'
)32 * ' +2' @(' 4 '3* 2)' = ' 3 9' (+2<4 29' =29' 3:3 3?'
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=' +' 752B' *' '562 '2)' / ' '/' =+4' ?439' *4' @3)'3;3'
+2' +3' 94*' 4:' *392 /+79' =29' +3' 4*)(' (+2<4 29 Y'
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/'?3?' +29' @33*' 93)3?' @3/2793' /+ 4*4)4<3 9' +2;3' 52??3'
76' +3':' 5'*?9' 4*' +3' R739 '4*' Y'4' +2' +3 3' '9' 2*('
E'*?' 4:' *3/399' (' :4' 6)2/'*<' 752' '*' +3' =3* '3 +'
)(56'2?' Y'4' '*' :'*3' +2' +3' +'9 4 '/2)' 63 94*2)' ('
4:' (+2<4 29' '9' 54 3' /3 2'*' +2*' +2' 4:' 752' Y'
=')' @3' 6)3293?' =' +' +3' 4)?' 6467)2' 46'*'4*' 2*?' =')'
*4' 92/ ':'/3' ' ' 4' /+ 4*4)4<(' +3' 93*2 3' =+3*' '*'
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‘ =2‘ 3/4 ?3?‘ @(‘ +3‘ E3363 ‘ 4:‘ +3‘ ‘@())‘*3‘ @44E9‘ +2‘ +3‘ :‘ 9‘ 93/7)2‘ :39 ‘;2)‘ 2: 3‘ +3‘ 3A67)9‘4*‘ 4:‘ +3‘ E‘*<‘ =2‘ /3)3@ 2 3?‘ ‘*‘ +3J0(32‘0 \ $‘ 2*?‘ +2‘ : 45‘ +2‘ ‘53‘ :4 +‘ ‘ 2)=2(‘ 3/7 3?‘ 2: 3‘ 2*‘ ‘* 3 ;2)‘ 4:‘ ‘ (32 9‘ 97/+‘ @3‘*<‘ +3‘)3*< +‘ 4:‘ 2‘ 93/)3I..‘ +‘9‘ 9 2 353*‘ ‘9‘ 2‘J;2 ‘2*/3‘ =‘ +‘ +3‘ 2//4‘5 ‘ ‘*‘ +3‘ 2**2)9‘ =+‘/+‘ 6)2/3?‘ +3‘ /3)3@ 2 ‘4*‘ 4:‘ +3‘ 93/7)2‘ :39 ‘;2)‘ ‘*‘ ;3 (‘ ?‘::3 3*‘ (32 9‘ 7‘ +47<+‘ +3‘ 2**2)‘9 ‘ =47)?‘ +2;3‘ *4‘ =3‘<+ ‘ ‘:‘ +3(‘ 32))(‘ 9 44?‘ ‘*‘ /4* 2?‘/ ‘4*‘ 4‘ +3‘ 27 +3* ‘/‘ @44E9‘ =3‘ *33?‘ *4‘ 9766493‘ +2‘ +3‘ @44E9‘ *4 3?‘ 2*(+‘*<‘ 54 3‘ +2*‘ +3‘ /)493‘ 4:‘ 2‘ 93/)3‘ 2*?‘ +3‘ 364/+‘ =+3*‘ @(‘ +3‘ 4 ?‘*2=/39‘ 4:‘ +3‘ /3 354*‘2)‘)2=‘ +3‘ @3<‘**‘*<‘ 4:‘ 2‘ *3=‘ 4*3‘ 9+47)?‘ +2;3‘ @33*‘ 94)35*‘H3?‘ @(‘ +3‘ 6346)3‘ ‘*‘ < 2 ‘ 7?3‘ :4‘ +3‘ 6 4)4*<2 ‘4*‘ 4:‘ ‘ ‘9‘ 3AC ‘9 3*/3‘ ‘* 4‘ 2‘ *3=‘ 63 ‘4?G‘ 2*?‘ +3(‘ 6 4@2@)(‘ ?‘?‘ +‘9‘ =‘ +47‘ 3<2 ?‘*<‘ =+3 +3‘ +3‘ /3)3@ 2 ‘4*‘ =29‘ ?3:3 3?‘ : 45‘ 62 ‘/7)2‘ /‘ /7 59 2*/39‘ 29‘ =29‘ 94‘ 4: 3*‘ +3‘ /293‘ =‘ +‘ :39 ‘;2)‘9‘ ;4=3?‘ 4‘ +3‘ <4?9

:‘ =3‘ <4‘ @2/E‘ :4))4=‘*<‘ +3‘ 9253‘ 6 ‘*/‘6)3‘ :‘(45‘ +3‘ 2@4;3‘+3* ‘4*3?‘ :‘ 9‘ 93/7)2‘ 364/+‘ 4:‘ =+‘/+‘ 2‘ +‘9 4 ‘/2)‘ 3<‘9 3‘ =2‘9 6 393 ;3?‘ +3‘ 3*?‘ 4:‘ +3‘ :‘ 9‘ 4‘ 2 +3‘ +3‘ @3<‘**‘*<‘ 4:‘ +3‘ 93/4*?‘ 93/)3‘ :2))‘9‘ ‘*‘ +3‘ (32‘ 4:‘ +3‘ :‘/‘ (‘ 8G)‘ +3‘ @3<‘**‘*<‘ 4:‘ +3‘ 93/4*?‘ B‘92(‘G‘ :4‘ ‘ ‘ ‘9‘ 3;‘?3*)(‘ :2‘ 54 3‘ 6 4@2@)3‘ +2‘ ?‘3‘ @3<‘**‘*<‘ 4:‘ 2‘ *3=‘ 63 ‘4?‘ 9+47)?‘ +2;3‘ @33*‘ /3)3@ 2 3?‘ =‘ +‘3‘,4(:7)‘ 94)35*‘ (

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Y 29 ' =29 @(+3 H 3/279 @(=+45 +3 3*3=2) 4: +3' 93/)3 =29)44E :4 =2 ? 4 =' + 2*A'479 ?47@ Y +2* +3 3*? 4: 2* 3A6' '*< 4*3 =+'/+)'E3 2)'(?3/3293 2*? 3 5'*2 '4* 579 2 +3 +2;3 3A/' 3? 53)2*/+4)(:33)'*<9 4= 2//4 ?'*< 4 +3 /+ 4*4)4<(4: +3 64*(':9 +'9 (32 =29 +3 :' 9 4: +3 3'<* 4: 7 79 49B ')'79(2//4 ?'*< 4 +3 64* ':9 92($:4 +3' 2@)3 =29 2?46 3? @(4)(@'79 :4 +'9 452* /+ 4*4)4<($ 2 '? +3 '9 +3 27 +4 ' (:4))4=3? @('/3 4 '* :'A'*< +3 (32 '9 4: +3 452* E'*<9L =29 +3 64* ':9 +3 3:4 3 =+4 299'<*3? 93;3* 2*? +' ((32 9 4 457)79 29 /'6'4! ?439 '* '/3 4 2*? *'*3 2*? +' (4 7522Z @3 =33* =+45 :2))9 +3 (32 4: +3! '* 3 3'<*$ =+3 329 ';(2*? #'4*(9'79 3/E4* :4 (B + 33 (32 9 :4 752

+'9 '9 *4=:7))(29/3 2'*3? @(+3 649' ';3 39 '54*(4: '/3 4 +3* :' 9 7*?3 44E +393 '6R7' '39 ' =29 4 @3 ?';'*3?' =' + +3 +3)6 4: 2)')3 @4)?*399 : 45 2 2/3 +47<+ *4 2 ;3 (?'9 '*/ 4*3 '* 2'* 3 450 2*9)2 '4* 4: +3 /+ 4*'/)3 4: 793@'79$ =+3 3 X (32 9 2 3 299'<*3? 4 +3 3'<*9 4: +3 93;3* 452* E'*<9 :4 (4 752 2*? +' (B3'<+ 4 457)79 l 9 73 +3 *75@3 4: (32 9 ?'/J *4 /453 47 6 3/'93)('<+ $ 2*?)''9 5'<+ 26632 4 +3 4;3 /27 '479 2 97::'(/'3* < 47*? :4 9+ '*E'*< : 45 +3 266)'/2 '4* 2*? '*(:3 3*/3 29 29+ +3 /3 2'* (=3 +2;3 *4=2//'?3* 2))(

11 ', 1 '1; '0 80'1 B N

8 08*- 2-/ B / ', 1 '1; .28-? ' . .0 2 -^ > d - 9 * 1 1e 2 80 -2(, '0+8 "- 8(, -1 5.0)")!* 1@1. 1; -'1: -"@1 8 15, "!08J). " 8 3 "--2.1:!* : : 80 8 ', 1 "71 06 H0!*) 2- , 1 8, ") '"8'- 06 8;2. , 1 ("!!- "..."(8 '1- , .11 "' ("8 4 "82-(. 5'- 7 @1 . $: .1": 9 * : +, (, +0.: H0!*) 2- 2-1-). , 1 508' 66- S; ; #/ ', 027, 08*- 2- ("!!- ', 14 K J - "8: 80" 60. ', 1 -25.141 508' 66 "!081

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7 $ %7 7 F * . **

, .0 (08/ 8 , 1- 1451. ("! 71. / 8 N / /

4@ 2'*3?' @(')'3' ?'9/4;3 (' 4:' +3' @44E9' 4*' +3' 367@)'/ ' :7 *'9+39' 2' 6 44:' +2 ' ='+' 3<2 ?' 4' +493' 2//47* 9' =+'/+' +2;3' @33*' 6 393 ;3?' : 45' 2*/'3* ' '539' 4*)(' @(' '))B'*:4 53?' 2*?' @29 (' /456')3 9' +3' '*,7 (' +3(' +2;3' 97::3 3?' '*' 6299'*<' + 47<+' 97/+' +2*?9' 47<+' *4' 4' @3' 2))4=3?' 4' ?3 3 5'*3' +3' 4*)(' 9+263' '*' =+'/+' =3' 2 3' 4' 52E3' 793' 4:' +35' *' *75@3)399' /2939' +3' 4 '<'*2)' :4 5' '9' *4' 44' 57/+' ?'9:'<7 3?' 4' @3' <739' 2 ' +3 3!' 52(' : 3R73*)(' @3' +2H2 ?' '*' ?4'*<' 94C' @7' =+2' =')' *4' 2?5'' 4:' @3'*<' 2@793?' '9' <44?' :4' *4 +'*<

+3')'<+' =+'/+' '*' 2' :4 7*2 3' +47' ' <2'*3?' =' +' 3<2 ?' 4' +3' 9335'*<)(' '*3A6)'/2@)3' ?'9/ 362*/'39' '*' 452*' /+ 4*4)4<(' 2 493' : -*' 5(' 63 /3';'*<' +2' +3' <'!47*?' 4*' =+'/+' %2@'79' ?'::3 3?' : 45' 2 4')2(' '*' +'9' 3/E4*'*<' 4*)(' X' (32 9' :4' +3' '53' 4:' +3' E'*<9'C 2*?' :4' +'9' ' =29' '*?3@ 3?' 4' +3' 93/4*?' @44E' 4:' +3' /+ 4C *'/)3' 4:' 793@'79' +'9' 27<+' 53' +3' '564 2*/3' 4:' +493' 2@)39' =+'/+' '*' < 32' 62 ' 36 393*' +3' ;'3=9' 4:' 64))4?4 79'C 2*?' ' ' =47)?' @4 ?3' 4*' '*< 2 ' 7?3' =3 3' ' 4' 9766 399' +3' 46'*'4*' ' 4*/3' 3A6 39' 4:' +35' '*' /4*C 93R73*/3' 4:' +3' /+ 4*'/)30' +2;'*<' @33*' 9763 93?3?' 29' 4' +'9' 64'*' ' @(' +3' 7*+463?B:4' ?'9/4;3 (' 4:' 2' 67 3' 945/3' ' 9'5')2' ?'9/4;3 (' =)''/+' +29' 2)549' 3*' ' 3)(B' 39 4 3?' +3' 62 ' 4:' +3' /+ 4*'/)3' +3*' =2*'*<' '9' 2' /2))' 764*' 47' 2<3' 4' 3/4<*'H3' ' 9' ;2)73' 2*?' 4' 3975 3' 3C 932 /+39' 44' 57/+' *3<)3/ 3?' 9'*/3' +3' '53' 4:' +2' < 32' 52*' =+4')2@47 3?' 2' 39 4 '*<' +3' =4 E' 4:' 793@'79' =' +' +3' /4*:'?3*' 9 3*< +' 4:' <3*'79' 2*?' =' +' @47*?)399')32 *'*<I IZ' /+33 3?' 2*?' 3=2 ?3?' @(' +3' /45 57*'/2 '4*9

("! 71.' -'00:' "'" ', 1' -24 4 "' 06' 28 @1.-"!' -0! :' 5, !0!07 ("!' !1".8 87/' 8' "' :17.11' ', "'80'081', "-'.1"(, "- 8(13' "8:'-0', 7,' 8' 1@1.*')."8(,' 06'-(18(1/', "' 6.04' ', 1' .1-02.(1-' 06', -' 0+8' 4 8:' ,1' (02!:' (045.1,18:/ "55!*/ "8:' :1(:1' 08' +,"'1@1.' ("41' 8', -' +"*' T,"'// +,18' (045".1:' + ',' , 4/ -' ', 1')00D !1".81:' "!4"- 2-U' 8:' +,*' :01-'80" H."8(1'-1" 25' ', 1' 8"41'06' ("! 71.' '0' 4"'(,' ', "' 06' 1)8 '_'f

2" 06' '"!*' "8:' C.11(1' ', 1.1' -'80' 7.028:' 40.1' -"(.1:' 8' ', 1'

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4: 2927@4* : '* +3 '*9 2*/3 @3:4 3 79 +3 4;3)44E =+2)2(/4*/32)3? '* 2 2?' '4* =+'/+ +2? @33* 5'9C 7*?3 9 44? ' =29 @3/2793 +3 2@7*?2*/3 4: +'9 52C 3 '2)9 =29 '*3A+279 '@)3 3;3* :4 +'5 94 +2 2 <)32*C '*< +29 @33*)3: :4 47 '*:3 '4 <3*3 2 '4*

4= +4=3;3 +2 =3 :'*? +3 (32 4: 7520 ?32 + /4*9'?3 3? 29 +3)29 '* +3 :' 9 93?3 4: +3 /' (2*4 +3 2?' '4* =+'/+ 4 +3 ='93 947*?9 9 2*<3 2*? 7*532*'*< 2/R7' 39 2 ?3:'*' 3 '564 $ +3 2?' '4* +2 +3 =29 @4 * 4* +3 ?2('4: +3 :47*?'*< 4: 453 =29 < 47*?3? 4* +3 79/2* *4 '4* 4: +3 :' 9 6+(9'/2) 93/)30 3 C 5'*2 '*< =' + +3 ?32 + 4: +3 63 94* =+)';3? +3)4*<39 254*< 2)) 97/+ 29 =3 3 @45 4* +3 ?2(=+3* 2 /' (=29 :47*?3? I +3 ;3 (/)32 *39 =' + =+'/+ +'9 '9 2662 3* 52E39 ' ' +3 54 3 *3/3992 (:4 53 4 533 2* 4@,3/ '4* =+'/+ 2* 2 3* ';3 32?3 5'<+ 2'93 3 5'<+ 352 E +2 ': X (32 9 =3 3 3/E4*3? :4 +3 '53 4: +3 E'*<9 2*? :45 +3 @3<'**'*< 4: +3 /4*97)2 3 ?4=* 4 +3 2E'*< @(+3 27)9 +3 (32 +'9 =47)? <';3 :4 +3 :47*?'*< 4: +3 /' (=47)? @3 +3 4*3 2?46 3? @(%2@'79) ' '$ (3 +2 @3 =33* +3 (32 k 2//4 ?'*< 4 %2@'79 2*? \ 2//4 ?'*< 4 "2 s +3 3 '* 3 ;3*3? *4 (32 9 @7 4*)(XG 94 +2 =3 9+47)? @3 ?3)7?3? +3 3 @(2 53 3)(2//'?3* 2) 26632 2*/3

1*1- 06 " 5, !0!171./ ', "8 ', 1 ', "!! 06 ', 1 28 @1.- '*'" 1*:183 +, 1.1 ', 1 50.'." '- 06 ', 1 5.061--0.-/6.04 ("! 71. 8 , - 5. 8(1!* 52.5!1/ :0+8 '0 2, 8D18 2-/ ".1 ."871: ".028: ', " 06 ', 1 7.1" T !! " 4 06 ."871/ ', 1 6"', 1. 06 ', 1 28 @1.- '*3 ', 1 1.1(' 08 06 +, (, +"- 7."8'1: '0 ', 1 .1921- 06 1*:18/ "- ', 1 80)!1- .1+". :60. , 1. 40.1 ', "8 , 24 "8 18:2."8(1 "8: 51.-1@1."8(1 , 1 7181."! 06 ', 1 .1G 52)! ("8 ('*/ ".08 0.:+*D/ +"- "!-0 " 7.1" 5, !0!071.

H!2'". (, / 24 "/ (08 "-- 2-/6. 5 08*- 2- +02! , "@1)118 "-, " 41: 06 -114 87 '0)1! 1@1 ', 1 4".@1!!02- (0 8(G :18(1?)2 , 1 '"D1- ":@"8'"71 06 ', 1)1! 16 06 0', 1.- '0 -! 5 24 "J- "71/ 80 6".6.04 60.'*/ 8'0 , - , -'0.*/ 8

11 ")0@1/ 5

3;3 +3)39 ' 9 *4 ?3/36 '4* 7 +3 %29 :4 +3 :' 9 :': ((32 9 4: +3 367@)'/ !2 3 '* /456)3 3 ?'9 4 ?3 2*? +'9 52(62)(+2;3 @33* 2 /4*93R73*/3 4: +3' @3'*< 2?26 3? 4 +3 9/+353 =+'/+ 39 '52 3? +3 63 '4? 7*?3 +3 /4*97)9 2 2 +' ? 4: +3 =+4)3 '53 /4567 3? 4 +2;3 3)269 @3 =33* +3 @7')?'*< 2*? +3 2E'*< 4: +3 /' (G +47<+ ' 52(2)94 +2;3 @33* '* 9453 53297 3 7*2;4'?2@)3 : 45 +3 *2 7 3 4: +3 %29 +3593);39 <';3* *75@3 4: 4:' /'2 (32 9 @(*4 532*9 2*9=3 3? 4 +3 9253 *75@3 4: 29 4*45'/2) 4*39V 4* 2//47* 4: +3 '* 3 3'<*9 94 : 3R73* '* +3 32)'3 2<39 @(=+'/+ +3 @3<'**'*< 4: '3 (32 =29 /2 '3? :7 +3 :4 =2 ? 3;3 ('53 +'9)3? +493 '* 4 3 47 =+4)'E3 %2@'79 52?3 +3 =4 2@)39 4: (32 9 62 2))3) 4 32/+ 4 +3 G @7 +3 93/)3 9766)'3? +3 /4 3/ '4* +'9 =29 E*4=* 4 +3 64* '::9 2*? + 47<+ +35 4 4)(@'79 2*? 2 4 //4 ?'*< 4 +3 :4 53 =+4 ?2 39 +3 2))'/ h'*;29'4* 2 (32)2 3 +2*#'4*(9'79 +3 93/7)2 (32 \ =29 G ':: 45 +'9 64'* =4 93/'39)(5C 6'2?9 2 3 3/E4*3? @2/E=2 ?' +3 93/4*? 93/)3 @3<'*9 '*)' m G =+'/+ 2//4 ?'*< 4 4)(@'79 =29 +3 93;3* (B 3'<+ +' (32 4: 453 2*? +3 :' 9 4: E'*< 7))79 2<2'* 35'*? +3 32?3)'2 +'9 9 2 353* =29 2E3* : 45 +3 2@)39 4: +3 64* '::9

3*/3 ' 9335 9 R7' 3 3;'?3* +2 +3 64* '::9 +35C 93);39 ?'9 '*<7'9+ +3 :' 9 =4 E'*<9 : 45 +3 39 29 @3)4*<'*< 4 2*4 +3 4 ?3 4: +'*<9 2*? +2 +3(9362C 2 3? +3 2//47* 9 4: +35 : 45 +493 =+'/+ =3 3 4 6299 :4 +'9 4 ($,79 29 +3 <(6 '2*9 @3<2* +3)'9 9 4: +3' E'*<9 =' + <@?9 2*? ?35'<4?9 457)79 =29 2 <4? +3 94* 4: 2 <4?$ 752 2 52* @7 /4**3/ 3? =' + 9763 '4 @3'*<9 :' +3 2?' '4* 2@47 +35 +4=C 3;3 '9 '* 2)) ' 9 62 9 2 643 '/2) :'/ '4* +3 :'A'*< +3 6 3 3*?3? 3 5 4: +3' 3'<*9 /2* 4*)(@3 3A6)2'*3? @(29/ '@'*< ' 3' +3 4 53 3 /26 '/3 4 4 *754 '/2)

, - !! !'F

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963/7)2 '4*9 2*? 2) +47<+ 4 7 +3 :4 53 5'<+ 9335
+3 54 3 6 4@2@)3 94)7 '4* +3)2 3 9 :2)'E3)'3 4
@3 +3 /4 3/ 4*3 =' + 3<2 ? 4 +3 2*/'3* 9 '* 32)(
'539$ 2@4;3 2) =+3 3 +3 2**2)9 =3 3 '* +3 +2*?9 4:
2)32 *3? 6 '39 +44? 7/+ 963/7)2 '4*9 /+2 2/ 3 'H3 +3
/+ 4*4)4<(4: 9'2 7/+ +2 +2;3 92'? 2) 32?(2*?
4 +3 352 E9 =+'/+ 9+2)) 52E3 +3 32: 3 3*?3 ' '
2)549 /3 2'* +2 +3 /+ 4*4)4<(4: +3 79/2*9 +3
92<39$4: 2*/'3* 453 =29 4: 2 9'5')2 /+2 2/ 3 +3
/((/)'/2) (32 =+'/+ '9 29975 3? 4 +2;3 @33* '*9 ' 7 3?
@(457)79 2*? 4 +2;3 6 3;2')3? ')) 752 =29 ?'C
;'?3? '* 4 *7*?'*39 ' =29 2* 4@;'479 +47<+ 4
3/E4* +3 9253 *75@3 4: (32 9 : 45 +3 @3<'**'*< 4:
+3 /' (4 752 *3 4: +393 =29 2E3* :4 +3 '* 3 C
3'<*$ 2*? +79 4*)(K =3 3)3: :4 457)79 +3* '
': ='/3 =3 3 4 @3 2))4 3? 4 +3 :' 9 =4 E'*<9 \
:3)) 4 7520 9+2 3$ 2*? +'9 *75@3 +2? 54 3 +2*
4*3 2 2/ '4* 4 3/4553*? * ' 9 /4564*3* 62 9 -
+ '/3 3* 2*? + '/3 + 33 +3 6 '*/'62) *75@3 '9 +2
=+'/+ ?3 3 5'*39 +3 6 464 '4*9 '* 2)) +3 32)'39 452*
'*9 ' 7 '4*9 2*? +3 *32 39 R74 '3* 4@ 2'*3? @(?';'?'*<
+3 *75@3 4: ?2(9 '* +3)7*2 (32 X @(\ '9 \
7/+ *753 '/2) /45@'*2 '4*9 2 3 53 3 /+')?'9+*399 4
,7<)3 ('* +3 6 393* /293 +4=3;3 =3 +2;3 *4 +'*< 4
3A63/ @7 6 '39)('97@ ') (=+'/+ '9 26 4 @3 2('63 ;3 3?
'*<3*7' (57/+ 4: 3*3 +2* ?36 + 4: +47<+ +3 4 +3
9 2 353* =+'/+ 299'<*9 :4 (B + 33 (32 9 4 752 @ '*<9
+3)3*< + 4: +'9 ':3 4 3'<+ (B4*3$ +3 @'R72? 2 3 4:
+ 33 +3* ' =29 :4 <4 3* +2 +'9 =29 +3 947 /3
4: +2)2 3 *75@3 3;3* 2 4 5'<+ 6 3:3 ' $ @3/2793
' 3*2@)3? +'5 4 /2 (@2/E :47 (32 9 :4 =+'/+ +3
/47)? :'*? *4 /4*97)9 : 45 +3 2**72) %29 " 4 +3 '53
4: +3 E'*<9 +3 9 5'<+ @3 <)2? 4 2E3 2=2(+3
4@;'479 26632 2*/3 4: 2 :2@ '/2 '4* : 45 +3 *75@3 9
X 2*?

' + 7))79 49 ')'79 =3 32/+ +3 @3<'**'*< 4: 2
3= 93/)3 2? 4: 2 *2 2 ';3 39 '*< 4* +'9 4 '/2) < 47*?

4:' 2' E'*?' 4 2))(' ?'::3 3*' : 45' +3' 9 4 (' 4:' +3' 6 3/3?'*< 63 '4?' 3 =33*' +3' 67 3)(' 643 '/2)' 2<3' +3' 3)2 '4*' 4:' =+'/+' 4' +'9 4 (' '9' 2) 4<3 +3 ' ' 2 '4*2)' 2*?' +3' +4 47<+)(' +'9 4 '/2)' 2<3' +3 3' '* 3 ;3*39' '*' 2))' *2 '4*9' 2' 5 'A ' 2<3' =+'/+' ':' 4*3' ='9+39' 4' ?39'<*2 3' ' ' @(' 2' 9'*<)3' =4 ?' 52(' @3' /2))3?' +3' 5 (+'/4B+'9 4 '/2)' ' +29' *4' 6 3/'93')'5' 9' @7' /4539' ?4=*' 4' +3' 64'* ' =+3 3' /4* 3564 2 (' +'9 4 (' @3<'*9' 2*?' ' 9' /+2 2/ 3' '9' +3' 54 3' 9 4*<)(' 52 E ' +3' '/+3 ' +3' *2 '4*' +29' @33*' '*' +3 4'/')2(9' 2*?' +3' :3=3 ' +3' = ' 3 9' =+4' +2;3' 2 3563?' 4' :' ' 76' +3' ;4'?' '*' ' 9' +'9 4 (' @(' +3' +3)6' 4:' 54*753* 9' 2*?' 27 +3* '/' ?4/7C 53* 9' =' +47' 62('*< 2 3* '4*' 4' +493')2(9' 4' (C '*< 4' /2))' 76' '*' +3' ' 5'*?9..'2*(' ?'9 '*/' '52<3' 4:' +3' 629' *' +3' +'9 4 (' 4:' +3' 5'??)3' 2<39' =3' :'*?' 97/+' 2' /+2 2/ 3' '*' /2*?'*2;'2' 2*?' '*' 62'*$ =+3 329' ?7 '*< +3' 9253' 63 '4?' +3' +'9 4 (' 4:' /47* '39')'E3' 2)(' =+'/+' 6499399' *4' +'9 4 '/2)')2(9' 9/2 /3)(' /4* 2'*9' 2' 2/3' 4:' ' ' 54*< +3' 33E9' +3' 3 9'2*' =2' 9 ')' ?'96)2(9' +3' /+2 2/ 3' 4:' 2' : 33' 36'/2)' *2 2 ';3' 2*?' 2)549' 3;3 (+'*< @3:4 3' +2' '9' 9 ' '*< 2*?' 2 2/ ';3' '*' +3' ' 9 4 (' '9' 643 (' *' 452*' +'9 4 (' +3' 2*<3' 4:' 67 3' :'/ '4*' ?439' *4' 32/+' 57/+')4=3 $ 2) +47<+' ' ' 26632 9' 2<2'*' : 45' '53' 4' '53' 3;3*' ?4=*' 4' +3' :': +' /3* 7 (' +3' ?'93293' =)''/+' 6 3(9' 4*' +'9' +'9 4 (' 7* ')' +3' =2' =' +' (+79' =+3*' :4 3'*3 9' 2')329' @3<2*' 4' = ' 3' ' ' /4* 3564 2*3479)(' '9' 9 7?'3?' :2)9':'/2 '4*' +'9' '9' 9+33' /4 76 '4*' +3' 643 '/2)' 9 4 (' 4*' +3' 4 +3' +2*?' '9' 453 +'*< ?'::3 3*' : 45' @7' @3 3' +2*' 67 3' +'9 4 (' 4*' +3' :'3)?' 4:' =+'/+' =3' 4*)(' 2<2'*' 533' =' +' =+2' =32 '39' 2*?' =4 '39' 79' '*')':3I..' +3' 3)2 '4*' =+'/+' 97/+' 643 '/2)' +'9 4 (' @32 9' 4' 5 (+4)4<(' '9' +2' +3' :4 53' 2)=2(9' +29' 2*?' 579' +2;3' 2' +'9 4 '/2)' :47*?2 '4*' 2*?' @4 4=9' ' 9' 52 3 '2)9' 52'*)(' : 45' +'9 4 (' 29' 2*95' 3?

'' +"-' -' !!' !"'1./' ")02" ', 1' "71' 06' !1;"8:1./' ', "'' *- -'."' -')17"8' '0' '"D1' 50.'." '-' 8' -(2!5'2.1' !!' ', 18' -'"'21-' ,":')118' :1"!' T0.D-/ 08!*' 5.1-1.@ 87' ', 1' 4" 8' 61"'2.1-' 06' ', 1' 6"(1' "8:' 6 72.1

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'* : 33 4 2) *2 2 ';3$ =+3 329 +3)2 3 2E39 +3 9
: 45 3)'<'4* 2*? : 45 6435 9 4* 9/2)3 2*? ?439
4 6 4:399 4 @3 2 6499'@)3 +'9 4 (4: +3 /45 54 4 ?3
4: +'*<9 '* +3 =4)?$ 2) +47<+ 94)4*< 29 ' /4*:'*39
 4 *4 4 +3 +32 3 4
+3)2 3 E'*? @3)4*< 3 /7)39 457)79 2*? '3<: '3?$
4 +3 :4 53 '9 453*39 7 79 2*? +3 '?
 * +3 @4 ?3 9 4: 5 (+4)4<(+3 6 3?45'*2* /+2C
2/ 3 4: 97/+ +'9 4 ('9 643 '/2) 2 +3 46649' 3 3*?
+'9 4 '/2) : +3 53* 964E3* 4: ?7 '*< +3 63 '4? =3
2 3 3* 3 '*< 4* :3= 2 3 '52<'*2 ($ 52*(' 4: +3 /+ 4C
4)4<'/2) 9 2 353 9 : 45 +3 (32)(' 3<'9 3 9 +2;3 2))
+3 ?3:'*' 3*399 /4*/3';2@)3 '* 2* 2<3 4: 97/+ 4@C
9/7 ' ('6 @7 +3 +'9 4 '/2) 62 4: 47 '*:4**2 '4* '9
)'5' 3? 4 +'9 %4 =+3* +'9 4 '2*9 2 493 +3' 2 3*C
'4* =29 ?' 3/ 3? 3A/)79';3)(' 4 =+2 @4 3 +3 *253 4:
2**2)9 *4 793 =29 52?3 4: 54*753* 9 2*? 4 '<'*2) ?4C
/753* 9$ 62)(' + 47<+ /2 3)399*399$ 62)(' @3/2793 +3('
/47)? *4 @3 @ 47<+ '* 4 +2 54*(' =' + +3 643 '/2)
)3<3*?9 *4 ?'? 2*(@4?(' E*4= (3 +4= 4 266 3/'2 3
+3 ;2)73 4: 2 : 2<53* 2 (+'9 4 (' ? 2=* : 45 27 +3* '/
947 /39 54*< +3 33E9 '*)2 3 '539 6+4 79 2*?
+3 27 +4 h 4: +3 +'?9 : 253? +'9 4 '39 : 45 52 3C
'2)9 4: +'9 E'*?$ 29 ?'? '52379 =+4 +4=3;3 '9 : 3C
R73*)(' ?'9+4*39 /4*/3 *'*< 2)(' 2*?B '/')($ +'9 4 '39
)'E3 52*(' +2 +2;3 @33* = ' 3* 4: +3 5'??)3 2<39$
4 =' +47 ;2)73 @7 6 393 '*< *4)';3)(' 2*? ?'9 '*/
'52<3 4: +3 63 '4? 45 3 +'9 947 /3 =29 @7
962 '*<)(' 356)4(3?$ 2*? 63 +269 @(' *4*3 @7 '*/'79
2*? 2/3 =' + ,7?<353* 2*? 2*(' ?3< 33 4: '*?79C
('9 73 +3 452* ?4/753* 9 4: +3 32)'39
63 '4? =3 3 9/2* ('* /4562 '94* =' + +3 +'9 4 '/2)
3297 39 4: +3*9 2*? 4: 2)549 2)) +3 33E /' '39
%4 2)4*< '53 +3)2=9 =3'!3 4*)(' 3*< 2;3? 4* 42E3*
2@)394 ': +3(' =3 3 6)29 3 3? 62'* 3? 4* +35

+79 +3(' @3/253 2 6;3(' 4 +3 :)2539 +3 54 3 329')(' 2 ' +3 2E'*< @(' +3 27)9 ' =+3*' *4*3 +2?' '53 4 ' 6 3C 93*/3 4:' 5'*?' 4 92;3 3;3*' +3 :7*?253* 2)')2=9 ' +3 4*)(' 4 '<'*2)' ?4/753* 9 53* '4*3?' 4:' +3 =+4)3 63 '4?' 7*?3 ' +3 E'*<9 ' 2 3 +3 32 (' 4:' 3 ;'79 7))'79 =' +' +3 2 '*9 I . . ' +2 ' 4:' +3)29 ' 2 R7'*'79 =' +' +3 2B +'*39 ' 2*?' 4*3 =' +' +3 2@'*39 I 0 ' +2 ' =' +' +3 2@'''39 =29 62'* 3?' 4*' 2' =44?3*' 9+'3)?' "3 '79 %)2//79 /' 3?' +3 /453* 2 '39 4:' 3 ;'79 7))'79 ' =+'/+' 26632 ' 4 +2;3 /4* 2'*3?' +3 97@9 2*/3 4:' +3 /4*9 ' 7 '4*2)')2=9 29/ '@3?' 4 +'5' $ 2*?' +3 /4))3/ '4*' 4:' +3)2=9 4:' +3 E'*<9 ' /456')3?' @(' 4*3 26' '79 ' 93359 7*R739 '4*2@)(' 4 +2;3 @33*' 4:' +'<+' 2* 'R7' (

% 45 ' +3 63 '4?' '5 53?'2 3)(' :4))4='*< +3 3A67)9'4*' 4:' +3 E'*<9 ' @39'?3 +3 =3);3 2@)39 ' 9453 4 +3 ')2=9 ' M5?' +3 /4562/ 9 @3 =33*' +3 62 '/'2*' 2*?' 6)3@3'2*' 4 C ?3 9 ' +3 3 =3 3 9 '))' 3A 2* ' '*' +3 93;3* +' 2*?' 3'<+ +' /3* 7 '39 ' +3 32 '39 =' +' 2 +2<3 I ' =' +' +3 2 '*90 I' 2*?' =' +' +3 ?32 39 7 ' +3 /4* 3* 9 4:' +393 ;3 (' ?4/753* 9 2 3 97/+' 29 3' +3 ' /2*' *4 =2(' @3 3/4*/')3?' =' +' 47 ' +'9 4 '/2)' 2//47* 9 ' 4 ' *4 ' =' +47 ' 57/+' ?'::'C /7) (

' 25 ' *4=' /453 4 +3 R739 '4*' 94 4: 4 ' 2'93?' 29 4 +3 <3*7'*3*399 2*?' / 3?'@')' (' 4:' +3 4 '<'*2)' 2**2)9 ')'3 ?'9/799'4*' 4:' +'9 R739 '4*' +29)2 3)(' @33*' 6)2/3?' 4*' 2 :' 5' < 47*?' 4:' =+'/+' 47 ' 6 3?3/3994 9 =3 3 ?39 ' 7 3 ' @(' +3 :4 7*2 3 ?'9/4;3 '39 =+'/+' +2;3 3* '/+' 6+')4)4<(' '*' 47 ' ?2(9

' '9 =3))' E*4=*' 4 +2;3 @33*' 2' /79 45 ' 52*':39)(' ?3 ';3?' : 45 ' ;3 (' 2*/'3*' '539 ' :4 ' +3 /+'3:' 64* '::B 4 *4 3 ?4=*' +3 3;3* 9 4:' +3 (32 ' 4*' 2 =+' 3?' 2@)3 $ 97/+' 29 ' 6 4?'<'39 ' 3/)'6939 ' 2 639 ')3*/3 ' 2 9/2 /' (' /2562'<*9

08*- 2-/ ' N

+' =7 $ C7 ' HI' $?I ' &' ' ' ' H$ =HI' $ + 7 ' F ' ? ' * ' 7' &' ' ' F $ &C ' +?% J $ $ '&' ;' $ IH &' ' 4 ' $?I ' &' ' ' F ' = I ' ' ' ' $C : ? &' ' +

'756+9 +3 ?32 +9 4: '))79 '479 53*$ '* 2 =4 ? +3 52 3 9 =+'/+ '; (' 3*753 2 39 2 +3 3*? 4: +3 3* + @44E 2*? '* 97/+ 4: +3 :4))4='*< 4*39 29 352'* 549)(' =+3** /)49'*< +3 +'9 4 (' 4: 2 (32 '* +3 6)2'*39 =4 ?9 2*? =' + +3 7 549 @ 3;' (G *4 +'*< /47)? @3 54 3 ,3,7*3IJ. +3 2@)3 =29 +3* 93 76 '* +3 +4793 4: +3 64* ':: I +3 2**2)9 4: 93;3 2) (32 9 =3 3 2: 3 C =2 ? /4))3/ 3? '* @44E9 +'9 /79 45 6 3;2')3? 7* ') +3 64* ':'/2 3 4: 73'79 2*? +3 '539 4: +3 2//+': =+3** ' /329 @3/2793 2)' 3 2 7 3 +2? +3* @33* :4 53?' 2*? 63 +269 @3/2793 +3 /45649'*< 97/+ /+ 4*'/)39 =29 ?3353?@3)4= +3 ?'<*' (' 4: +3! /+'3: 64* '::

4= '/3 4 ' < 2* 52E39 * 4*'*9 92(' +2 +'9 /79C 45 +2? 97@9'9 3? :'!45 +3 @3<'**'*< 4: +3 452* 9 2 3 7 ' ' ?439 *4 :4))4= : 45 +'9 +2 '/3 4 532* 4 2993 +3 2**2)9 '* +3 6499399'4* 4: +3 452* +'9 4C '2*9 =+4 ?'? *4 @3<'* 4 = ' 3 ')) 94)2 3 32/+ +79 :2 @2/E +493 4: +3 32)'3 '539 52(' +2;3 63 '9+ G 2*? 97/+ '; (' 2*? 4 +3 2*/'3* = ' 3 9 +47<+ =' +47 963/':'/ 53* '4* 4: +3 **2)39 2A'5 9 2 3 4 +2;3 @33* +3 /293 2 +3 ?39 7/ '4* 4: +3 /' (' @(' +3 27)9 997 3?)(' 44 +'9 5'<+ 329')(' @3 +3' ' :2 3 2 +2 '536 :4 63 +269 +3 2@)39 +2? *4 (3 @33* 2*9:3 3? '* 4 @44E9$ 2*? ' '9 ;3 (' 7*)'E3)(' +2 +3 3 9+47)? +2;3 @33* 2* (' 2*9/ '6 9 4: 97/+ @44E9 39'?39 6499'C @)(' +3(' 52(' *4 +2;3 @33* ?3649' 3? '* +3 26' 4) =+3 3 +3 /+'3: 64* ':: ?'?! *4 39'?3 2*? =+3 3 +3 3 =29 *4 4//29'4* :4 +'5 4 E336 +'9 2 /+';39)'E3 +3 ?775;' 9 4: +3 '@())'*3 @44E9

' +'*E =3 52(' *4=' /4*9'?3 ' ' /3 2'* +2 +493 2**2)9 ?'? 32))(' 533 5 + 97/+ 2 :2 3 2 +2 '53 2*? +2 +3(' =3 3 36)2/3? @(' *3=' 4*39 '/3 4 92(9 +3 32)'39 3/)'693 4: +3 97* =+'/+ +3 **2)39 2A'5 3/4 ?3? 29 +2;'*< @33* 4@93 ;3?' :3)) 4* +3 *4*39 4: '53 2@47 +3 (32 G +3 32)'3 4*39 =3 3 /4567 3?

@2/E=2 ? : 45 +'9 64'* ' 76 4 +2 ' ?7 '*< =+'/+ 4C 57)79 =29 /2 '3? 76 4 +32;3* IL. ' % 45 2 : 2<53* ' 4: 2 4 =3)32' +2 ' 3/)'6939 4: ?'3 97*' 2*? 544* =3 3 3993* '2) 62 9 4: +3 /4* 3* 9 4: +3 64* ':'/2) 2**2)9C 2*? +3' ' +2;'*< @33* /4567 3? @2/E=2 ? 2< 339 =' + +'9 9 2 353* ' 2*? 9+3=9 +2 ' 2* 2 356 ' =29 52?3 4 36)2/3 +3)499 4: +3 2/ 72) 4@93 ;2 '4*9 ' +3 9253 +'*< +29 @33* ?4*3 '* +3 +'*393 /+ 4*'/)39 ' :4 ' +3 '539 +3 2**2)9 4: =+'/+ 2 3 92'? 4 +2;3 3A'9 3?' @7 ' 4 @2;3 @33* ?39 4(3?' +3 3/)'693 964E3* 4: +('/3 4 =29 *4 ' ;'9'@)3 2 ' 453C @7 ' +3 452*9 ?3 ';3? '*C :4 52 '4* : 45 2?39 4: +3 ?2(' 2*? +47 ' =+3* ' ' 4/C /7 3?' 29 =3)) 29 4: +3 2//'?3* 2) /' /759 2*/3 +2 ' +3 97* =29 4@9/7 3? =+3* +3 93 ' =+'/+ 52?3 ' ' 5354 2@)3 ' +3)'9 ' 4: +3 3/)'6939 4@93 ;3? ?439 *4 ' @3<'* ')) 2: 3 ' +3 39 4 2 '4* 4: +3 /' (L I

AfA 1 1 5 ' N ' "(' 8 .1 '"8'"' 81-" ."' 0 "'921 -0!!1.' "/ 2" 1;' ,0(' : 1/ 921.8 "52:' 88 24 1" 8 4"; 4 -' 88"!)2-' (08- 78"'24 @ :142-/ , ' ' & - ' _- ' -', J, ' ' 'J, ' ' `, - L, '&, ' 0 - '+- , ' 160.1 ', -' 5"--"71 +"-').027, "'0' ! 7, '/ ' 5.0@1:')*' (0718" ".72418'-/ ', "'" ', 1.1 +1.1 80 (08'1450."."*' 508' 6 ("! "88"!-/)160.1 ', 1)"'!1 06 %17 !!2-' "'" ', 1 1".! 1-'? ', 0-1 ".72418'-' ".1 80+' -251. !202-' ,1'!'1.' "((0.: 87 '0' ', 1 451.61(" 41', 0:' ', 18 2-1:/ ', 1 (0452'"' 08-' ("41 02" . 7, '/ -' "80', 1.' 921-' 08? +,0 +"-''0' @1. 6*' ', 14 f 2" " -' @1.*' 5.0)"G)!1 ', "' "8 1..08102-' (0452'"' 08 06 ', -' D 8:' +"-' ', 1 7.028:')*' +, (,' ', 1 :"'1 06 ', 1 :1"', 06 042!2-' +"-' :1'1.4 81:

fA (1.0/ :1 1 5 ' N ' % " S 88 2-# -(.) " "880 (((8 61.1 50-" 04"4 (08: '"4 =808 -' 28 -' -0! ' !28"" 0)-'(' " 1" 80; ' ,1 1!")0."'1 8@1-' 7"' 08-' (".. 1:' 08)* .' 1 -' 06 0!0781/ 28:1.' ', 1 72 :"8(1 06 4 * 18:' .' 28(,0+/ ,"@1 -1 " ")1*08:' "' :02)" ', "' ', 1 1(! 5-1 .161..1:' '0' ("8)1 80 0', 1.' ', "8 ', 1 081 +, (,' 0((2..1:' 08 ', 1 -" 06 281 8 ', 1 "-'.0804 ("! *1".' FF/ ' ' +, (,' "' 041 ,0+1@1.' : :' 80" 6" ! ' !! "6'1.' -28-1' ' " C":1-/ +, 1.1 40.1 ', "8 1!1@18 : 7 '-' +1.1 0)-(2.1:/ ', 1 4 : :!1' 06 " '00D 5!"(1 ', .11 4 82'1-')160.1 -28-1'? ', -' 7 @1-' "8 281;51('1:' "((2."(*' '0' ', 1 +0.:-' ' , ' L - - -' -' ' +, (,' 80+' (1"-1 '0')1 '"2'0!07 ("! ' ,"' ', 1 8081-' -,02!:' 6"!! 08 ', 1 -" -' 80 +"*' -2.5. - 87/ (08- G :1. 87 ', 1 5."(' (1 06 8'1.("!"' 873 80.' -' " 40.1 -0/ ', "' ', 1

4=' ':' +3' 62)'3 ' 2**2)9' =3 3' *4 ' <3*7'*3 ' @7 ' 3C 9 4 2 '4*9 ' +'9' 2//47* 9' :4 ' +3' 9'*<7)2 ' 63/7)'2 ' '39' '*' +3' *753 '/2)' 9 2 353* 9' + 47<+47 ' +3' 32)(' 62 ' 4:' 452*' +'9 4 (' 2*?' :4 ' +3' ' 3:3 3*/3' 4' +3' 364/+' 4:' +3' 2E'*< @(' +3' 27)9 ' 4 ' +2 ' 2))' +3' %29 '' 2*?' &32 @44E9' =3 3' ?39 4(3?'*' +2 ' /2)25 ' (6' 62 9' 4:' +35' 579 ' +2;3' @33*' 6 393 ;3?' '*' +3' 26' 4)' 2*?' '*' +3' 2 '*' 4=*9$' 2*?' 97/+' <3*7'*3' ?4/753* 9' =3 3' '*/4 C 64 2 3?' 7 ' =3' 579 ' *4 ')44E' :4 ' < 32 ' ?')'<3*/3' 4:' 3932 /+' : 45' +3' 64* '::9' *4 ' 3;3*' :4 ' 2*(' 2*A'3 (' 2@47 ' +'9 4 '/2)' 2//7 2/(' =+3 3' +3(' /47)?' 2*9=3 ' +3' ' 67 C 6493' @(' *753 '/2)' /45@'*2 '4*9 ' ! +3' 5 '9/+'3:' =29 ' +2 ' +3' ' =4 E' =29' ?3353?' 27 +3* '/ ' 2*?' 944*' 3A/)79' ;3)(' 94 //4 ?'*<' 4' +3' /+ 4*4)4<(' 4:' %2@'79 ' +3' +'9 4 (' 4:' 453' : 45' +3' :47*?'*<' 4' +3' 2E'*<' 4:' +3' /' (' 96)' 9' '* 4' =4' 64 '4*9 ' 4:' X ' (32 9' 7*?3 ' +3' E'*<9 ' 2*?' ' 2: 3 ' +35'$ 4 ' 4' 3A6 399' +3' 9253' +'*<' ?':3 3*)(' '* 4' + 33' 63 '4?9 I J!0' 32/+' /4* 2'*'*<' 3*' '539' =3);3' (32 9$' =3);3' @3'*<' +3' *75@3 ' 4:' +3' @' ?9' '*' +3' 27<7 (' 4:' 457)79 ' +'9' 47)'*3' =29' +3' @3?' 4:' 4/ 79 39 ' 4' =+'/+' =+2 3;3 ' =29' E*4=*' 4 ' @3)'^;3?' 2@47 ' +3' 32)(' 2<39' =29' :' 3?' ' =29' 3/4 ?3?' +2 ' 2' 93/7)2 ' :39 ';2)' +2?' @33*' -/3)3@ 2 3?' 9453' k ' (32 9' @3:4 3'6 457)79 ' 752 ' 2*?' +3' :';3' 97//33?'*<' E'*<9 ' =!3 3' +3' 97@,3/ 9' !4:' 52*':4)?')3<3*?9' 2*?' 2?' '4*9'$ @7 ' 3A/36 ' 63 +269' 29' 4' +3')29 ' E'*<' +3(' =3 3' =' +47 ' 2*(' /+ 4*4)4<'/2)' 6 3/'9'4*

4=' +3' 6 '39 9' =+4' 2 2*<3?' +3' 2**2)9J :'A ' +3' 3'<*9' 4:' 457)79' 2*?' 752 ' 2//4 ?'*<' 4' +3' *753 '/2)' /2)/7)2 '4*9' 2) 32?(' 3A6)2'*3?' 2 ' kK' (32 96' +'9' :4 53?' +3' :' 9 ' 93?3 ' 2' +3 4'/' 4*3

0)-1.@"' 08' '"D18' "'C":1-' -,02!:')1'D80+8' "' 041 ' 40.1' ', "8' 0!: ".* .17".:'60.' "-'.0804*' -' 45! 1:' 8' ',1' +0.-, 5'5" :' "'C":1-' '0' ',1' *1".' "8:' ',1' 408',' "-' : @ 8 ' 1-'? -11' 80'1'

-' '! 1' ! 61' 06' 0-1-' -' : @ :1:' 8'0' '! .11' 51. 0:-' 06' 60 '*' *1".-' "5 1(1'3 "8:' '! 1' 5U18("!07*' 8' '' "'',1+' (08- -'-' 06' ',.11' 5"!' 3 02(,' (08'" 8 87' 602.'118' 7181."' 08-

54*< +3 93;3*' E'*<9' =+493 9 2 739 9 447 '*' +3 26' 4)' */79 2 /'79 =29 +3 :47 +6 2*7 94 +3 5'??)3 4:' +'9! 3'<*' =29 527?3 4 /4'*/'?3 =' +' +3 5'?C ?)3 4:' +3 63 '47 299'<*37 4 +3 E'*<9' +3 3*7 4:' +3 (32 ' ' 4=' ' '9 73' 2*(' *75@3 ' 4:' (32 9 5'<+ ' +2;3 @33*' 2))4 37 4 +'5' 2 ' ?'9/ 3 '4*'6 =+2 ' ?3/'?37 '*' :2;47 ' 4:' ' =29' +2 ' +'9 *75@3 ' 4<3 +3 ' =' +' +2 ' 4:' +3 :' 9 ' 93?3 ' 52E39 ,79 ' ' 2*7 +2 ' ' +3 (32 ' >'*' =+'/+' +'9 3'<*' =47)7 +79 /)493 ' =29 +3 *75@3 ' 6 (32 9 4:' 3*' 54* +9 '*' 2 93?3 ' *' +'9 =2(' ' (32 9 :3))' 4 +3 9+2 3 4:' 7))79 ' +3* ' =' +' 2 ;'3='4:'<3 '*< .'9453 +'*< +2 ' 9+47)7)44E)'E3 +'9 4 '/2)' 57*@3 9 :4 ' +3 =4 3'<*9 *3A ' 4 +2 ' 4:' */79' +2):' 2 /3* 5$(' =29 /47* 3?' : 45' 'T 4 +3 3*7 4:' +3 3)?3 ' 2 R7'*'79 6 2*7 +3 3'<*' 4:' 3 ;'79 =29 3A 3*?3 7 4 +3 (32 ' m ' =' +47 ' +3 9)'<+ 39 ' 2 3* '4*' 4 +3 '56499'@')' '39 2*7 /4* 2?'/ '4*2 4//29'4*37 @(' 94 ?4'*<' ''9)3:' :';3 2*7 =3* (' (32 9 :4 ' +3)29 ' E'*<' 2 ?2 3 =+'/+' 52(' 63 +269 +2;3 @33*' +'9 4 '/2) I LJ' !

' =29 4*)(' 3R7'9' 3 +2 ' +3 /4567 2 '4*' 2?46 37 @(' 4)(@'79 :4 ' +3 (32 9 4:' +3 E'*<9 9+47)7 @3 E*4=*' '*' 4 ?3 ' +2 ' +'9 =3@ 4:' *4 ;3 (' :'*3 3A 7 3 9+47)7 /4537 4)'<+ ' 2*7 *4)4*<3 ' @3 2E3*' :4 ' 2 '(+'*< @7 ' =+2 ' ' ' '9 *' 4 +3 ' /2939 +3 /+ 4*4)4<'/2)' 9 2 353* 9 ?7 '*< 2 5(+'/4B+'9 4 '/2)' 2<3 52(' 6499'@)(' ?393 ;3 / 3C ?' 6 @7 ' 29 4 +3 63 '47 4:' +3 452*' E'*<9' +3 /+ 4C *4)4<(' '9 2 :4 <3 (' 2*7 2 :'/ '4*' + 47<+47 ' +3 3 '9 *4 2 '4*2)' < 47*7 :4 ' ?47@ '*< +3 63 94*2)' 3A'9 3*/3 4:' 7))79 49 ')'79 @7 ' 549 ' 2997 3?)(' +3 /45@2 ' 4:' +3 4 2 '" 2*7 +3 E'*<09 52 ;3))479 ?32 +' 2 3 54 3)'E3)(' 4 @3 +'9 4 '/2))(' 73' +2*' +3 ?2 39 299'<*37 4 +'9 3'<*

4 34;3 ' =+')3 *4 *2 '4*2)' 2**2)9 =3 3)3:' /4*/3 *C '*< +3 '539 4:' +3 E'*<9' +3 3 =3 3 *4 :25')(' *2*2 ';/9 +2 ' 32/+ ' 94 :2 ' @2/E' +3 9 4 '39 +2 ' +3 " 2)3 ''

964E3 4: 2 "4)3979 29 +3' 2*/39 4 +2 +3 2'!/') 2/3? +3 4 '<'* 4: +3' 2/3 4 */79 2*? 4 +3 :25'( )'39 4 *52 F 3 *4 6 44: 4 +3 /4* 2 (+3 2@'*3 ?39/3* 4: +3 "2)3 '" 29 2 <3*3 2) :2/ 25 32?(' 4 2?5' G @7 ':' 2*(' 6)3@3'2** +47939 ?3?7/3? +3' 9 4/E : 45 +3 E'*<9 *4@4?(' /47)? 93 '479)(' @3)'3;3 +35 A/36 +3 4 2 '' Y'2*? 29 4 +35 ' =29 ?'967 3? =+3 +3 +3(' @3)4*<3? 4 453 4)@2 Y'*4 2 9'*<)3 452** '9 53* '4*3? @(' *253 '* +3)3<3*?9 4: 7))79 2*? +3 + 33 :4))4='*< E'*<9 +3 329 : 45 +3 ;3 (' @3<'**'*< 4: +3 4554*=32) + +3 :25')(' +'9 4 '39 3C)2 3? 57/+ 4: ' 9 < 32 53*$ +47<+ =+2 +3(' 3)2 3? 52(' *4 2)=2(9 @3 =4 +(' 4: / 3?'

+3 2 ' +53 '/2) 47)'*3 ? 2=** :4 +3 '53 4: +3 E'*<9 @3:4 3 ' @3/253 2 ;3+'/)3 :4 53 3 :'/ '4* =29 :'))3? 76 =' + =4 /)2993 9 4: 97@,3/ 9$:+3 :4 59 4: +3 9 2 3 ' 9)2=9 2*? +3 '*9 ' 7 '4*9 29/ '@3? 4 62 '/7C)2 E'*<9$ 2*?)3<3*?9 4: +3' 3A6)4' 9 +3 :4 53 /)299 ?439 *4 9335 4 +2;3 57/+ 4//76'3? +3 32)'39 2**2)'9 9 '/+)(' 29 ' 6 4;'?3?)2 3 2<39 =' + 52 3 '2)9 +3 2* 'R7' (' 4: +3)3<3*?9 '9 57/+ < 32 3 6 +3' 4 '<'* <439 @2/E :2 @3(4*? +3 '53 =+3** +3 **2)9 =3 3 39 4 3?

+2 +3(' =3 3 2*95' 3? '*)2(9 : 45 <3*3 2 '4* 4 <3*3 2 '4* 2*? +2 +3' /4* 3* 9 /2**4 @3 54 3 27 +3* '/ +2** +493 4: 2*(' 4 +3 6435 6 393 ;3? @(' 94*< 4* +3 ?33?9 4: :4 53 '539 '9 *4 2 *3=* *4 '4* ' '9 *32 2 /3* 7 (' 2*? 2 +2):' 9'*/3 3 'H4*'79 3AB 6 39 ' ' 2*? 4@93 ;3? +2 254*< +3 2*/'3* 452*9 ' =29 +3 /79 45 2 @2*R73 9 :4 +3 6 2'939 4: < 32 53** 4 @3 97*< 4 +3 :)7 3 F :2/ E*4=* 4

? = " ? C+% 7 ' $?7" ' $ +7 , =+ % % ?$ L?$2 = " 2=7? ' ' 2 $ 7 $? =7 '&H47 ' $? 7' ' +?% ?$ 2 =M $& ' '=+C7 H& ' + ' + 7 7? " =$'7 2=$ $CH+ 7% CI $F ? $? 27 7 7N&+ I K?$ +?

=7 7+% ?K F+' '+K7 " ? =7 &' O&+7' P + ' ' C&" +& $? K ? H&" % (+ $ C$ 7C +F&% C+4 " =&?

? "' '

4*)(' + 47<)" 2 4' =+4' 9335 9' 4' +2;3' 964E3*' 4:' ' ' 29' 2' 792<3' *4')4*<3 ' 97@9'9 '*<' +3' <739 9' +3593);39' 92*<' '*' 7 *'6 94' ' ' =29' 3A63/ 3?' +2 ' +3')2(9' @3'*<' +3' /45 54*' 6 463 (' 4:' +3' *2 '4* ' 9+47)?' @3' E*4=*' 4' 3;3 (' : 33' /' 'H3* ' //4 ?'*<' 4' "2 s' =+4' /2))9' +35' 4)?' +3(' =3 3' 97*<' @(' 54?39 ' @4(9' 9453 '539' 4' +3' :)7 3' 9453 '539' =' +47' 579'/ I IZ' +3' 63/7)'2 ' :7*/ '4*' 4:' +3' 253*23' =29' 4' <,*<' +3' 6 9?939' 4:' +3' 2*/'3* 9' $ 2*?' 254*<' +3' 39 ' +493' 4:' +3' E'*<9 ' %4 ' 367@)'/2*' 453' *3;3 ' 9 '6 ' +3 93):' 4:' +3' 3/4))3/ '4*' 4:' +3 ' ?*<9 ' 2*(' 54 3' +2*' 9+3' 354;3?' +3' ' 9 2 739' : 45' +3' 26' 4)'6 J'*' +3' @39 ' '539' 4:' +3 ' : 33?45' +3' ' 5354 (' =29' 3;3 3?' 2*?' /3)3@ 2 3?

3' 2 3' 94' 3* ' 3)(' ?363*?3* ' 4*' +3' 2<3' 4' =+'/+' =3' @3)4*<' =3' 97@9'9 ' 94' 57/+' '*' ' ' 2*?' + 47<+' ' ' 29' 62 9' 4:' 2' =+4)3' +2 ' +3' 9253' +47<+ ' 52(' 2 ' 4*3' '53' @3' 97:))/'3* ' 4' <';3' 79' 2 ' 53297 3' :4 ' +3' 2/7 3*399 ' +3' ?36 +' 2*?' +3' 9 3*< +' 4:' +3' 5 3))3/ ' =+'/+' /4*/3';39' ' ' =)'')3' 2 ' 2*4 +3 ' ' ' 52(' 97<<39 ' ' 93):' 4' 3;3 (@4?(' 2*?' *4 +'*<' @7 ' 2//'?3* ')32?9' 4*3' 52*' 4' 2* '/'62 3' 4 +3 9' '*' <';'*<' 7 3 2*/3' 4' ' ' 3 'H4*'79' /2*' +2;3' E*4=*' *4 +'*<' 4:' +3 4'/')2(9' 3A/36 ' : 45' @44E9 ' +2 ' +3' 9+47)?' 3;3 ' +2;3' +32 ?' 4:' 2*(' 9 ' ' /* 3* ' '*' +'9' ?2(9' 4 ' = ' 3*' ?4=*' : 45' +3' 547 +' 4:' +3' /4554*' 6346)3 ' '9' '*/4*/3';2@)3 ' /4*9'?3 '*<' +'9' 2<3 ' 3')';3?

152!".24' 62 --1/ 2'' :1 8(15-/' 92 ' "((2)".18'/ ("81.18'' ":' ') "4' (!" ' .0.24' @ .0.24' !"2:1-' "'9 1' @ .'2'1-' (1.0' !"418'-' ', "'' ',1-1' -087-' +1.1' !0-'' ? .2' ' / F' D1' ',1'-"* 87-'06' 55 2-' ',1' ! 8:' ,0+1@1./ ',1*' -114' '0' ,"@1' @"8 -," 08!*' 6.04' -2(,' "-' : :' 80" (".1' 60.' ',14 ' 08*- 2-' ,":' 41'' + ',' -087-' ")02'' 042!2-

M20'1:')*' 08 2-/ ' B / "--'' @0(1' ? S":1."8'# 8' (08@ @ -' 521. ' 40:1-' / 2'' ("8'".18'' (".4 8'' "8' 92"/ 8' 92)2-' !"2:1-' 1."8'' 4 "I0.24/ "--'' @0(1/ 1'' (24' ') (81

1-' ' 5 ' ' ' "418"1/ 42-"1/ 920:' ("828'' "8' 920.24 !"2:1-

Y' 88 2-' -"87' 06' ',14/ "8:' 2(.1' 2-' 418' 08-' ',14' + ',' ',1' , 7,1-'' ,0802.

)4*< 3*47<+ +4=3;3 ' 4 +32 ' 2*? 63 +269 52(' +2;3 +3') ?' @7 ' *4 ' '))' 2 R72 3 ' 4:' 2 /3* 7 (' 2: 3 ' +3 26C 632 2*/3 4:' +'9 3932 /+39' +4=' ??'94*' 4793?' +3 4@ 793 93*939 4:' +'9)' 3 2 (' /4* 3564 2 '39' 4 ,4'*' +3 /4554*' 6346)3 '*' 3/4<*'H'*< +3 67 3 <4)?' 4:' 643 (' '*' +3;(B/+2/3' +3 329 +3 +3 4'/')2(9 4:' 62'*' 4:' /4)2*?' 2*? 4:' /2*?'*2;'2' +2?')4*< @33*' 2 62 ' 4:' 47 ' /4554*' 9 4/EG +3 2(' 4:' +3' '3@3)7*<3*' +2? 2) 32?(' 3;';3?' 2*? 2E3*' ' 9 6)2/3 '*')' 3 2 7 3C 2*? *4=' +2 ' =3)'9 3*' 4 +3)2(9 4:' +3 3 ;'2*9' 2*? 4 +493 4:' 33/3' +3 9=2*)'E3 9 2'*9 4:' 2 9)27<+ 3 3? *2 '4*$ *4=' +2 ' 3;3 (' 4*3 E*4=9 +4=' 643 (' 52'* 2'*9 ' 9 3A'9 3*/3 '*' 3;3 (' 6346)3' 7* ')' 53 '/J' :4 59' :4 3'*' 54?3)9' +3 ;2 '479 2*? 57) '6)('*< '* 3 39 9' 4:' 3;3 (B?2(')':3' 2*? <3*3 2)' '*3 *399' 4 ')7A7 (' 9 ':)3 ' ' 94 +2 ' 643 '/2)' 5'*?9 2 3 +3 ;3 (' /)299 =+493 <3*'79 549' 2 3)(' :'*?9 2 ;3* $ =+')3 4*' +3 /4* 2 (' 5'*?9 =' +47 ' 643 '/2)' <3*'79 '@7 ' =' +' 2)3* 9 94 2*2)4<479 4 ' ' +2 ')'3(' 52(' 93 ;3 29 2 97@9 ' 7 3' : 3R73*)(' 797 6 +3 2 $ *4=' +3 356 (' 4@,3/ '4*9 +2 ' +2;3 @33*' 2'93?' *4)4*<3 ' *33?' 2*' 2*9=3 ' :' 2*(' 4*3 ?439 *4 ' ?'9/3 *' +3 2/39 4:' 97/+')2(9 '*' +3 36'/2)' 62 ' 4:' 452*' 9 4 (' +3 52(' /4* '*73 @)'*?' 4 +35G +3 =')' @3)3:' 54 3 2*? 54 3 2)4*3 3;3 (' ?2(G +3 3 /2*' @3 *4 <4'*< @2/E=2 ?' 4*' +'9 64'* ' :4 ' <3*3 2 '4*9

3 254< +3 ;2 '479 :4 59 4:' 452*' 6467)2 ' 643 (' =29 +3 *3*'2' /4* 2'*'*< +3 6 2'939 4:' +3 ?3/329 ' =+'/+' =3 3 97*< 4 +3 :)7 3 2 ' +3 :7*3 2)' 6 4/399'4*9 I I0 29 +3(' =3 3 3/' 3?' '*' +3 :7*3 2)' 4 2 '4*9' 3 2 3 *4 4 9766493 +2 ' ' 3935@)3?' +3 33E + 3*39 2*? 3)3<'39G +3 452*9 '*' +3' ' 4)?' '539 ?'?' *4 ' 53)' '* 4 2 3*?3 ' 544?' 2*? @3=2')' +3 ?32?' @7 ' 62'?' +35' +4*47 ' 3 579 ' '52<'*3 +3 *3*'2 +3 3:4 3 4 +2;3 @33*' 2 5354C '2)')2(')'E3 +493 97*< 2 ' @2*R73 9G '*?33?' +3)2 3 ' =3 3 63 +269 +3 ;3 (' 9253 =+'/+' +2?' :' 9' @33*' +32 ?

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+35' :4 ' + 33' +44E9' 4:' +'9' 6435$' 2*7' =+4' 93 '479)(' @3)'3;3?' +'593):' 4' @3' +3' :' 9 ' 4:' 452*' 643 9 ' @3/2793' +3' +27' /4* 356 7479)(' 9+7 ' +'9' 3(39' 2<2'*9 ' +3' 53 ' 9' 4:' +3' 4)7' *2 ';3' 643 (' 2*7' 97//33?37' '*' 9766 399'*<' ' ' ' #:' +2 ' 643 (' 2*7' 4:' ' 9' ?39 7/ '4*' ' 9+2)' 9632E' 3)93=+3 3$ +3 3' 4*)(' 4*3' :7 +3 ' 352 E' '9' *33?37' *C /'3* ' 29' +3' < 47*?=4 E' 4:' +3' 36'/2)')2(9' 7*R739 '4*2@)(' =29' +3' :4 5' '*' =+'/+' +3(' =3 3' +2*?3?' ?4=* ' F*?' 2' < 32 ' 62 ' 4:' +3' ' /4* 3* 9' 9335' 4' +2;3' @33*' /4562C 2 ';3)(' 3/3* ' +')3' '*' +3' 64* ':'/2)' 2**2)9' +'9 4 (' =29' 2?7) 3 2 3?' 4' :2;47 ' +3' 62 '/'2*9' +'9' 643 (' '9' 63 ;2?3?' + 47<+47 ' @(' 2' 6)3@3'2*' 96' ' ' @(' +2 3?' 4:' +3' 466 3994 9' 2*?' @(' 3;'?3* ' 52 E9' +2 ' 2 ' +3' '53' =+3*' ' ' =29' 97*<' 9453' 6)3@3'2*' +47939' =3 3' 2) 32?(' < 32 ' 2*?' 64=3 :7)' +3' 299'<* 53* 9' 4:')2*?' @(' *52 ' 7))79' */79' 2*?' 3 ;'79' 2 3' '*' +'9' 96' ' '))' +3' :2;4 ' 3' E'*<9' 2 3' +3' : '3*?9' 4:' : 33?45 ' +3' @39 ' 4:' +35' *3A ' 4' +3' +4)(' 752' '9' +3' 6)3@3'2*' 3 ;'79 ' +3' 62 '/'2*9' 26632 ' '*' 2' ?3 39 2@)3')'<+ ' 29' /456)'39' '*' +'9' 57 ?3 ' 2'2' 3/')'2 ' +3' 452*' ='3' 4:' +3' 3)?3 ' 2 R7'*'79' '9' 2' 6)3@3'2*' 2' E'*9=452*' 4:' +3' 3B' 3))' ' +3' :47*?3 ' 4:' +3' 367@)'/' 2*?' 73'79' /23;4)2' 2 3' 6)3@3'2*9' *' +3' 4 +3 ' 9'?3' +3' 4*)(' *4@)3' /+2 2/C 3 9' 2 3' +3' "2)3 '" 2*?' 4 2 '' ' +47939' : '3*?)(' 4' +3' /4554*9' 3*/3' ' 9+47)?' @3' '*/)'*3?' *4 ' 4' ?2 3' +3' 64359' +3' /4* 3* 9' 4:' =+'/+' +2;3' /453' ?4=*' 4' 79 ' @3:4 3' +3' 39 4 2 '4*' 4:' +3' /' (' 2: 3 ' +3' 2))'/' ?'9C 29 3 ' 2E'*<' +'9' 29' +3' ' 32)'39 ' 2<3' +3' 5'??)3' 4:' +3' :': +' /3* 7 (' +3' <4)?3*' 2<3' 4:' 452*' 2 ' 52('63 C +269' 2)94' +2;3' @33*' +2 ' 4:' 452*' 643 (' +3' 9253' 63 '4?' '9')'E3='93' '*?'/2 3?' @(' +3' /4*97) '*<' +3' (+'2*' 4 2/)3' +3' 9 4 (' 4:' +3' 9(5@4)'/2)' 52**3 ' '*' =+'/+' +3')29 ' E'*<' '*9 7/ 3?' +'9' 94*' +4=' 4' <3 ' '?' 4:' +3

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54 3' '9' 3R7'9' 3' +2*' +2 ' ' 9' /45 53*/353* ' 9+47)?'
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2 3' *3/3992 ')(' ?363*?3* ' 4*' 2' 976649' '4*' 29/3 2'*3?'
4' @3' 7 3)(' :2)93' 2 3' 649' ';3)(' @2?' #'::3 3* ' 3 29'
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+2 ' 4:' 2@4*2992 ' =29' ;3 (' 6 463)(' 52?3' 4' ('3)?' 4'
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6 2/ '/2)' 67 64939' ?363*?9' 4*' + 33' R72)' '39' ' 9+47)?'
@3<'*' 32)(' 3*47<+' 4' /456 3+3*?' 2))' 97/+' ?2 39' 29' 2 3'
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' ' 9+47)?' @3' 266)'/2@)3' =' +47 ' ;'4)3*/3' 4' +3' +'9 4 ('
4:' +3' 549 ' '564 2*' *2 '4*9' +2 ' /453' 7*?3 ' ' C 2*?'
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/45 53*/353* +3)(56'/ 3 2 2*? +2 4: 2@4*2992 ?'::3)')3 : 45 +3 452*6 @7 =+')3 +3)29 < 4=9 54 3 2*? 54 3 3A 3*9';3)(266)'/2@)3 7* ') +3 @2)3 4: / '75$ 4: +3 =4 :4 53 +3 4*3)'E3 33/3 ?439 *4 97 ;';3)3A2*?3 3A/36 29 2* 356 (*253 =+')3 +3 4 +3)'E3 2@()4* /32939 2@47 +3 9253 '53 2)0 4<3 +3 3(4*? +3 364/+ 299'<*3? 4 +3 :47*?'*< 4: 453 +3 =39 4: 7 463 +29 *4 /+ 4*4)4<(2 2 %4 33/3 +3 53 +4? ?3;'93? @(2 49 +3*39 4: 3/E0 4*'*< : 45 +3 :2)) 4: 4(4 '*?'/2 3 3)2 ';3 ?2 39 =29 2 +266(+47<+ %4 9 '))) 32)'3 '539 '*' 33/3 =+3*' 2))) /+ 4*4)4<(3J36 :4 9'2 '9 2 53 3 ? 325 =3 52(2?46 +3 2@()4*'2*' /4567 2 '4* =+'/+' @3<2*' \ (32 9 @3:4 3 +3 :' 9 (32 4:)3A2*?3 09 39'?3*/3 2 2@()4*I IK.' 2*? =+'/+' =')) 93 ;3 :4 2)) 9'2 4*' +'9 9'?3 4: +3 *?79

29 4: /' '39 : 45 +3' :47*?2 '4*' =3 3 /4554*' '* 2)(/2)'<3 R74 39 2*' '*9/ '6 '4*' 6 4;'*<! +2 97/+ 2*' 3 2 =29 '*' 793 2 +3 5@ '2*' 4=*' 4: * 3 25*2J '2 2 9'5')2 4*3 6 3;2')3? 2 53 '2 '9 9+3=*' @(+3 2@4;3B53* '4*3? 9 2 353* 4: 2 4 . 9 4 +3 452*9 =3 +2;3 *4 2/3 4: +3' 3/E4*'*< +3' (32 9 '*' +'9 =2(@3:4 3 +3 '53 4: 7<79 79 *' +3 4 +3 +2*? 2*' 3 2 : 45 +3 @2*'9+53* 4: +3 E'*<9 4//7 9 : 3C R73*)('6 ' =29 3963/'2))(7972) 4 356)4(+'9 :4 ?2 '*< 2) 3 2 '4*9 '*' +3 /4*9 ' 7 '4* +'9 '9 ?4*3 @('/3 4 @(2/' 79 2*? 3;3*' @(2'*9\.$ 2 /4'*/'?3*/3 =+'/+ 2::4 ?9 < 47*? :4 /4*,3/ 7 '*< +2 97/+ 2) 3 2 '4*9 =3 3

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9'5')2)(' 3/4 ?3?' '*' 9453' = ' 3 ' :4))4=3?' @(' 2))' +3B + 33'G 2*?' +'9' =29' 6 4@2@)(' *4' 4 +3 ' +2*' 7*'79' 2/B /+2*79 ' =+4' = 4 3' '*' +3' :' 9 ' +2):' 4:' +3' 93;3* +' /3*C 7 (

#'4*(9'79' 29975 3?' +2 ' +'9' 54?3' 4:' 3/E4*'*<' =29' 2) 32?(' '*' 793' 2@47 ' +3' 5'??)3' 4:' +3' :47 +' /3* 7 (G 3)93' +3' =47)?' *4 ' +2;3' +7') ' 4*' /3 2'*' 3<'9 3 9' 4:' +3' /3*94 9 ' =+'/+' ?39'<*2 3?' +3' (32 ' @3:4 3' +3' 2E'*<' 4:' +3' /' (' 4' @3' +3' (32 ' \' 2: 3 ' +3' @2*'9+53* ' 4:' +3' E'*<9' 29' 4*' 27 +3* '/' ?4/753* 9 ' 7 ' 2?5' '*<' +3' <3*7'*3*399' 4:' +3' 3<'9 3 9' +3593);39 ' 9 ')' +'9' ?2 3' 52(' *4 ' +2;3' @33*' 93 ' ?4=*' 2 ' +3' '53'G ' ' 52(' +2;3' @33*' 2')2 3 ' 2??' '4*' 52?3' 3' +3 ' '**4/3*)(' 4 ' =' +' +3' ?39'<*' 4:' :2)9':('*<' +3' 3A ' 4=3;3 ' +'9' /3 2'*)(' 6 4;39' +2 ' +3' 3 2' =29' 793?' '*' 67@)'/' ?4/753* 9 ' +47<+' 6499'@)(' *4 ' ')' 2')2 3 ' 2<3

*' 3;3 (' 3 2' +3' *75@3 ' 4:' (32 9' 2 3' 4' @3' 2E3*' 29' 2)' 4:' +3' 9253' E'*?' =+3 +3 ' +3(' 2 3' 29 4*45'/2)' 4 ')7*2 ' (32 9' 4=' 9'*/3' 47 ' %29 '' 3*753 2 3' +3' 52C <'9 2 39' :4 ' ' (32 9' : 45' +3' @3<'**'*<' 4:' +3' /4*97)C 9+'6' ')' +3' 2E'*<' 4:' +3' /' (' +393' 4::'/'2)' (32 9' =47)?' 2*9=3 ' 6 3/'93)(' 4' ,79 ' 29' 52*(' 4:' +3' 3 2' 7 ' *4' ?363*?3*/3' /2*' @3' 6)2/3?' 4*' +3' %29 '$' 29' '9' 97::'/'3*)(' 6 4;3?' @(' 47 ' :'*?'*<' 7 7' 2*?' 4 2 '7' *253?' 29' /4))g<739' '*' +3' 32 (' =' +' 2 +2<3' \J$ 2*?' ' 9+2)' 9+3=' '*' +3' 6 463 ' 6)2/3' +2 ' +3' /4*97)' =+4' 2 3' 52?3' 4' 97/C /33?' 4*3' 2*4 +3 ' '*' +3' :' 9 ' (32 ' 4:' +3' 4554*=32) +' '*' 97/+' *75@3 9' 29' *3;3 ' 4//7 ' 2<2'*' @3)4*<' 4' 93;3 2)' (32 9' 4 34;3 ' '*' ';(' +47<+' +3' :4))4=3?' 2 40' /4567 2 '4*' ?7 '*<' +'9' 63 '4?' +3' /4*97)' 4:' +3' (32 9' X ' mX' 2*?' m ' 2 3' =2* '*<' *4 ' 4' 53* '4*' 9+<+ 3 ' ;2 '2 '4*9' ')' < 32 3 ' ?'9/ 362*/'39' 26632 ' '*' +3' %29 '' 4:' #'4?4 79' =+'/+' ?'94 ?3)(' 29' +3(' 26632 ' 4' @3' 2 3' ?393 ;'*<' 4:' 54 3' 2 3* '4*' +2*' +3(' +2;3' 3/3';3?' 9'*/3' +3' < 32 39 ' ?'::'/7) '39' '*' +35' 2 '93' : 45' 5'9= ' '*<

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299'79 35'*2' 2 +3 @3<+77+< 4: +3 93;3* +/3*C 7 (' 6)2/3? +3'2<3 4:' 453 ' =+'/+ 3649 2//4 ?'*< 4 33E 2@)39 ?2 3? m ' (32 9 @3:4 3 453' 54 3 +2* m ' (32 9 2: 3 ' +3 4,2** =2 049' 3 579 ' 6 4@2@)(' +2;3 +2? +3 9253 /4567 2 '4** '* ;'3=

+2 ' +3 93/4*? 4:' +3 2@4;3B53* '4*3? /+ 4*4)4<'/2) 9/+3539 .' =29)'E3='93 52?3 793 4:' =3 :'*? 2 4)3 2@)(' 97 3 2/3' +47<+' ' '9 5'A' 76 =' +' 4 +3 ' 52 3 9' 2*? ?'9:'<7 3?' 7 46'79 ?2 3? +3 @7')?'*< 4:' 453 '* ' m ' $' 4 ' 2 ' 2** 2;3 2<3N \X (32 9 2: 3 ' +3 :2))' 4:' 4(' +3930 =4 9 2 353* 9 ?4 *4 ' /4'*/'?3' 2//4 ?'*< 4 2*(' 4:' +3 46'*'4*9 /4*/3 *'*< +3 @3<'**'*< 4:' +3)(56'2?9 +3('2 3 3* ' 3)(' 7*/4**3/ 3?=' +' 32/+' 4 +3 ' 63 94** =+4 3/E4*3? +3 m ' (32 9' *4 ' : 45' +3 :2 ' 4:')'4*' @7 ' : 45' +3 :47*?'*< 4:')@2' 2*? =+4 2??3? +3 ' (32 9 9'*/3 +3)2*?'*< 4:' J*329' 2*? 2 (32 ' :4 ' +'9 ;4(2<3' =47)? 4@ 2'** +3 *75@3 ' <';3** @(' 7C 46'79

'52379' = ' '*< 2@47' X\ ' 6)2/3? +3 :47*?2 '4** 4:' 453 /4* 3564 2*3479 =' +' +2 ' 4:' 2 +2<3' 29 #'4*(C 9'79 92(9' 2*? ' (32 9 @3:4 3 +3 :' 9' J)(56'2?' +3 9253 364/+' =' +'** 2 (32 ' :4 ' 2 +2<3 4//7 9 '* 4 +3 ' = ' 3 9' @3'*< 6 4@2@)(' 2E3** : 45' 64 4?4 79 +'9 '* +'9 2@)39 =47)? @3 m ' =' +' '5579 k\ (32 9 2: 3 ' +3 :2))' 4:' 4(' 76649'*< +4=3;3 ' +2 ' '59379 ?'? *4 ' 3/E4** @2/E=2 ? : 45' +3)(56'2?9 '@7 ':4 =2 ? : 45' +3

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32)(6 @7 ' ' =29 7 *3? 4 2//47* ' 2*? 2<< 2;2 3? @(' +3 9+253:7) ?'9+4*39 (' 4:' +3 64* '::9' =+4' +2;'*< 29C 9753? +3 64=3 ' 4:' '* 3 /2)2 '*< 2 ' ?'9/ 3 '4*' :2;47 3? 9453 '539 +3 /4*97)9' 9453 '539 +3 :2 53 9 4:' +3 3C ;3*73' @(')3*< +3*'*< +3 (32 ' 4 ' @(' 9+4 3*'*< ' ' 46B 6 39' +35

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%';3 <(6 '2*' 94)2 ' (32 9 4:' m ' ?2(9 /4* 2'*' ' ?2(9$ 9'A 457)'2*' (32 9 4:' X ' 4*)(' X ' *' :';3 (32 9 2//4 ?'*<)(' +3 452*' /45672 '4*')49 ' 2 ?2(' =+3*' /4562 3?' =' +' +3 <(6 '2*' /';')' /45672 '4* ' =+'/+' +2?' *4)326B(32 $ @7 ' =+'/+' '*' Xm ' (32 9 3C 7 *3?' 4 ' 9 4 '<'*2)' 64'* ' 4:' 9 2 '*<' =' +' +3)499 4:' 2 (32 ' 29 +3 /' /75*2;'<2 4 ' 4:' +3 =4)?' 3 7 *9 =' +' +3)499 4:' 2 ?2(6 2*?' =+3*' /4562 3?' =' +' +3 /4 C 3/ 3?' 7)'2*' /2)3*?2 ' +3 4)?' 452*')49 ' *32)(' =4 ?2(9 2*?' 2 R72 3 ' 4=' +'9 =47)?' @3 94 < 32 ' 2 ;2C '2 '4* ' +2 ' 7*)399 +3 3 =3 3 4 +3 ' ?';'9'4*9 4:' '53 ' 3;'?3*)(' 62 9 4:' +3 9253 9(9 35' =' +' +3 (32 ' 4:' 3*' 54* +9 ' 9766)('*< +3 532*9 4:' 2 3<7)2 ' '* 3 /2)2 '4* ' =' +' +2 ' ?3< 33 4:' 3293 2*?' +2 54*(' =+'/+' '9 2 93):B 3;'?3* ' 6 44:' +3 /(/)'/2)' 793 4:' 97/+' 2 (32 ' =47)?' /3 C 2'*)(' @3 '56 4@2@)3

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>' 1' : 1' 8"'2! / (' u' 18-0. 82-/ :1' : 1' 8"' ' (' ' 6' ', 1.1')1' "8*' 081' +,0 -' 82" 18' .1!*' (08@ 8(1:')*' ("! 71.J-' ".72418'-' '0' 5.0@1' '! -' 50 8'/ "8:' '0' -,1+' ," "' "' !2-'.1' (08'" 81:' 6 @1' (@ ! *1".-/ ' .161.' , 4' '0' -041' 40.1' -51(6 (' 0)-1.@"' 08-'+, (,' ' -, "!!' 4"D1' +,18' ' (041' '0' ', 1' 8C -' '2' 08' 06' '! 1' (18-0.-, 5

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/)493' 266 4A'52 '4*' 4' +3' 73' '53' 2*?' 2' /4 3/ '4*' :4 ' +3' /(/)39' 4:' +3')7*2 ' (32 ' %4 ' +3' :';3' 63 '4?9' =+'/+' :4 5' +3' 93/)3 ' +2;3' +33*' /4567 3?' @(' /2)'<3 ' =+4' 947<+ ' *4' +'<+3 ' ?3< 33' 4:' 3A2/ *399' +2*' +2 ' 4:' +3' 7)'2*' /2)3*?2 ' 4' /4* 2'*' X kk' ?2(9' =+3 329' +3' 975' 4:' +3' ?2(9' '*' +3' /(/)'/2)' (32 9' 2: 3 ' +3' '* 3 C /2)2 '4*',79 ' 53* '4*3?' '9' X km

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'<' 4:' +3' 93/)3 ' +3' /)493' 4:' 2')79 3 ' ' '
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+35' 4' +2;3' 793?' 4*3' =+'/+' +2?' @33*' /2)/7)2 3?' @(' 9453')32 *3?' 6346)3' 4' 299753' =' +' 2/ 4@'79' =+4' 2E39' *4' 2//47* ' 4:' +3' /(/)3' +2 ' =+3*' +3' 93294*9' ?'?' *4 ' 2< 33' =' +' +3' ' 54* +9' +3(')3 ' 2' /3 2'*' '53' 6299' =+'/+' +2?' *4' *253' 2 ' 2))' '9' : 45' '<*4 2*/3' 4:' +3' 54?39' 4:' +'*E'*<' 6 3;2)3* ' 3;3*' 254*<' +3' 7?39 ' '@39' 4' ?3< 2?3' +3' 452*9' '*' @2 @2 '95' @3)4=' +3' 4R7393' ' 25' :2 ' : 45' 532*'*<' 4' /)299' 457)79' 254*<' 29 4*453 9' =+'/+' /2)'<3 ' ?36 3/2 39G' @7 ' +3' *253' 4:' +3' 457)'2*' (32 ' *33?' *4 ' 2*?' '*?33?' '9' *4 ' '* 3*?3?' 4' 9'<*':(' 2*(+'*<' @7 ' +3' '<'*2)' /(/)'/2)' 4*3

+3' 452*' 2 /+34)4<3 9' +4=3;3 ' =3 3' 2997 3?)(' 5'9C 2E3*' '*' =4' 4:' +3' ' 976649' '4*9$' +2 ' +3' /2)3*?2 ' 4:' 3*' 54* +9' =29' 4 '<'*2))(' +3' 4*)(' 4*3' '*' 793$' 2*?' +2 ' ' ' =29' 2: 3 =2 ?' <';3*' 76' 3* ' 3)(' !:+3 ' :4 53 ' '9' '5C 6 4@2@)3G' :4 ' +2 ' /2)3*?2 ' @32 9' 94' /)493' 2' 3)2 '4*' 4' +3' /(/)3' 4:' +3')7*2 ' (32 ' +2 ' ' ' /2*' 9/2 /3)(' @3' ?47@ 3?' +3(' =3 3' :4 53?' 2 ' +3' 9253' '53' 4 34;3 ' +3' 32 C)'39 ' /2)3*?2 ' :4 ' 6467)2 ' 793' =47)?' *3/3992 ')(' 4@93 ;3' +3' /+2*<39' 4:' +3B544*G' 2*?' 97/+' 2' 4*3' =+'/+' 2?26 3?' ' 93):' 4' +3' 93294*9')'E3' +3' %799)"' (32 ' '*' *?'2' 579 ' 2)=2(9' +2;3' @33*' 3R7'9' 3' +3' 93/4*?' 976649' '4*' '9' 3 4*3479' +3' (32 ' 4:' 3*' 54* +9' =29' 7*?47@ 3?)(' 9 ')' '*' 793')4*<' 2: 3 ' +3' '53' 4:' +3' E'*<9$' 2*?' ' ' /4*C '*73?' 4' @3' 266)'3?' '*' /3 2'*' 792<39' +3' 4 '<'*' 4:' =+'/+' =29')49 ' 9'<+ ' 4:' '*' 2: 3 ' '539

+3' 79/2*9' 793?' 4' :4))4=' +3' +4*39 ' 7)3' 4:' 4*)(' 52E'*<' 632/3' 7*?3 ' +3' :4 5' 4:' 2' 7/3' :4 ' 2' ?3:'*' 3' *75@3 ' 4:' (32 9' !J +3 452*' 32 '39' =' +' "3'' ' 2 B' R7'*'' ' 23 3' 2*?' "7)9'*'' ' 2 3' 964E3*' 4:' 2)549 ' =' +C 47 ' 3A/36 '4* ' 29' 7/39 ' =' +' 2' 963/':'/2 '4*' 4:' +3' 9 'C 67)2 3?' 3 5 ' 4=' +3' 79/2*9' 2 3' *4 ' /+2 <3?' =' +' +2;'*<' @ 4E3*' 2*(' 4:' +393' 32 '39$' +47<+' +49 ')' '39' 2)549 ' 2)=2(9' 3/45 53*/3' @3:4 3' +3' (32 9' 4:' +3' 7/3' +2;3' 3A6' 3?' 2//4 ?'*<' 4' +3' %29 ' ' :' *3' '*9 2*/3 ' 254*<' 93;3 2)' =+'/+' 2 3' R7' 3' 7*3R7';4/2)' 2*?' =+'/+' ='))' @3

64'* 3?4 47 ' '*' +3 /47 93 4:' +3 +'9 4 (' '9 :7 *'9+' @(' +3 632/3 =' +' "3'" '*' +3 (32 ' ' +'9 =29 /4*C /)7?3?4 :4 ' :4 (' (32 9' *' m %'?3*23 3;4) 3?' 2*?4 ,4'*3?4 "3''.G =+'/+' '56)'39 +2 ' +3)2 3 ' =29 2) 32?(' 2 ' =2 ' =' +' 453' +2 ' 3;4)' 3A/' 3?4 < 32 ' '*?'<*2C '4*' 254*< +3 452*9$ (3 ' +3(' ?4 *4 ' 2//793 +3 "3'3* '*39 4:' +2;'*< @ 4E3*' +3' ' 42 +9' ' 9)' /)32 3 ' '*9 2*/3 '9 2::4 ?3?4 @(' ';(09 92('*< 7*?3 ' +3 (32 ' Xk ' =+3*' 2//4 ?'*< 4 +3 %29 " 3'<+ 33*' (32 9 +2?4 3)269 ' 4:' +3 =3* (B(32 9 7/3 52?3 '*' \ ' +2 ' ' +2?4 3AC 6' 3?JI00 +393 :2/ 9 ' /2*' 4*)(' @3 3A6)2'*3?4 @(' 976649C '*< +2 ' +3 (32 9 =3 3 +493 4:' 3*' 54* +9K :4 ' X ' 4:' +393 2 3 3R72)' 4 J' 4 ?'*2 (' 4*39 ' ' 4 m 94 +2 ' +3 :4 53 ' 7/3 +2?4 /453 4 2*' 3*?4 '*' +3 (32 ' X ' +3)2 3 ' '*' Xm

+3 2 '*' '@39 2*?4 +3 35'/2*9 356)4(3?4 ;3 (' 9'*<7)2 ' 53 +4?9 4:' /4567 '*< '53$ +3 9(9 35' 4:' =+'/+' 52(' 63 +269 @3 ?';'*3?4 @(' 9453 4*3 3)93 : 45' =+2 ' 3*94 '*79 92(9 /4*/3 *'*< +3 /2)3*?2 9 4:')@2' 28 ;'*'75 ' 79/7)75 ' '/'2' 2*?4 %3 3* '*75 ' +3' ' 54* +9 2 3 92'?4 4 +2;3 ;2 '3?4 : 45' \' ?2(9 4 m'.I' +3 /2C)3*?2 ' 4:' +3 794*'2*' '@39' =+2 3;3 ' ' 9! 6 '*/'6)39 52(' +2;3 @33*' =29 /3 2'*)(' R7' 3 ?'::3 3* ' : 45' +3 452*' /';')' 4*3' 3*/3 453 /4*/)7?3?4 7/39 =' +' +35')'E3='93' :4 ' '*9 2*/3' =' +' +3 "4)9/'2*9 2*?4 R7'2*9' 2//4 ?'*< 4 /(/)'/2)' (32 9' +79 +3 7/3 2 ':'3?4 '*' ' :4 ' 3'<+ ' (32 9' 4 ' m e' /';')' (32 9' 3*?3?4 '*' G *4 ' 2 3 +3 "4)9/'2*9 /+2 <3?4 =' +' 63 ,7 (' 4*' +3' ' 3*3='*< +49 ')' '39 +3 *3A ' (32 ' +3 9253 6 2/C '/3 6 3;2')3?4 @3 =33*' +3 452*9 2*?4 +3 %2)'9/2*9 ' =29 7*R739 '4*2@)(' '*' +3 96' ' ' 4:' +3 79/2*9

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18-0. 82-/ (' ' ' ' ,"@1' 80 :02)'/ ', 1 .' .1"! (,"."('1.' B -' 06 ', 1' -"41' D 8:' "-' ', "' 06 ', 1' 04"8 *1".'3 08!*' ' +"-' : -' 2 -1:')*' "' 824)1.' 06 "." 6 (1-

2*?’ 2)'/2*9’ 4’ 52E3’ 793’ 4:’ 2*’ 7*;2 ('*<’ /2)3*?2 ’ '*’ /2939’ =+3 3’ 3;3*’ 2*’ '*;4)7* 2 (’ 2*9< 399'4*’ + 32 3*3?’ 4’ ? 2=’ ?4=*’ 67*'9+53* ’ : 45’ +3’ <4?9’6 2*?’ ':’ =3’ 976C 6493’ +2’ +3’ 452*’ '* 3 /2)2 '4*9’ +2?’ 2) 32?(’ <4 ’ 47 ’ 4:’ 4 ?3 ’ +'9’ 54 ';3’ 579’+2;3’+2?’?47@)3’ =3'<+

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/2)'<3 ’ =+4’ 9 46’ 4*)(’ 4*3’ 9 36’ 9+4 ’ 4:’ +3’ 64'* ’ =+3 3’ +3’ =47)?’ +2;3’ ?'9/3 *3?’ +3’ *2 7 3’4:’ +393’/+ 4B *4)4J/2)’ 9(9 359’ 2*?’ =+4’ 63 +269’ =47)?’ *4 ’ +2;3’ 97:C :3 3?’ +'593):’ 4’ @3’ 363))3?’ @(’ +3' ’ 9335'*<)(’ 9 2*<3’ /+2 2/ 3 ’ +2?’ +3’ +2?’ 2’ @3 3 ’ 2//47* ’ 4:’ +3’ H 3/2*’ /2)3*?2 Y +3’ @3:4 3’ =+493’ 3(39’ 3;3 (’9/'3* ':'/’6346)3’4:’ +3’ 32 +’ 9+3?’)'<+ ’ 764*’ +3’ 39 Y ’ 32)'<3 ’ +'593):’ 3C 52 E9’ +4=’ 9'*<7)2 ’ ' ’ '9’ +2 ’ +3’ 2 7 *2)'2’2*?’ 2 4B *2)'2’ +493’ @327 ':7)’ :39 ';2)9’ 4:’ 2*/'3* ’ +4793+4)?’ :33)C '*<9’ '*9362 2@)(’ /4**3/ 3?’ 29’ +3(’ =3 3’ @(’ +3' ’ 96' ' ’ 9+47)?’ +2;3’ @33*’ /3)3@ 2 3?’ +3’ :4 53’ 2’ +3’ 3*?’ 4:’ #3/35@3 ’ +3’)2 3 ’2’ +3’@3J**'*<’4:’ 2 /+

:’ +3’ /+ 4*4)4<'/2)’ ;'3=9’ =+'/+’)3?’ **'79’ 4’ 3/E4*’ 2@47’ 93;3*’ +7*? 3?’ (32 9’@3 =33*’ +3’@7')?'*<’4:’ 453’ 2 '?’+'9’ 4=*’ '53’ ’ +2;3’ 2) 32?(’ 97<<39 3?’ =+2’ ’ *4=’ 3<2 ?’ 29’ +3’ 54 3’ 6 4@2@)3’ 3A6)2*2 '4*’ 7 ’=3’ 5'<+ ’ 2)94’ 9766493’ +35’ 4’@3’/(/)'/2)’(32 9’4:’ 3*’ 54* +9’6 :4 ’ 93;3*’ +7*? 3?’ 4:’ +393’ 52E3’ 2@47’ ’ /';')’(32 9’$ 2*?’ ' ’ =29’ '*’ ’ +2 ’ +3’ 4)?’ 52*’ = 4 3’ +3’)29 ’ @44E’ 4:’ +'9’ **2)9

3*’ =29’ +3’ :7*?253* 2)’ *75@3 ’ 4:’ 7 '2’ @3'*<’ +2 ’ 4:’ +3’ 93/'39’ 299'<*3?’ 4’ +3’ *2 '4*$’ +2 ’ 4:’ 453’ =29’ =3);3 ’ +3’ 9253’ 6 464 '4*’ =+'/+’ 3A'9 9’ '*’ '53’ @3 =33*’ +3’ /(/)'/2)’ 2*?’ +3’)7*2 ’(32 ’ +4)?9’ '*’ +3’ 53297 353*’ 4:’ 962/3’ @3 =33*’ +3’ 79/2*’ $ ’ 2*?’ +3’ 452*’)’ ’ 3;3*’ 9335’9’ 29’ ':’ +3’ 452*’9’ +2?’ 67’ =3);3’ 79/2*’ 6 '94*3 9’ 4’ ?32 +’ :4 ’ 3;3 (’ 3*

4: +3' /47* (53* =+4 +2? @33* 92/ ':'/3? @(+3 2 B R7'*'2*9JBK.

4= 29 3;3 (9 2 353* 4: 2 ?2(6 '4 4 +3 3<4 '2* 3:4 52 '4* 4: +3 /2)3*?2 579 @3 3:3 3? 2//4 ?'*< 4 +3 73 /4567 2 '4* 4 2 ?'::3 3* ?2(:'B45 +3 4*3 53* '4*3?$ 94 =47)? ' @3 =' + +3 *75@3 4: (32 9 92'? 4 +2;3 3)269 ': 2 9 2 3 =3 3 4 2?46 2 *3='9(9 35 4: (32 9 +3 452* 2* 'R72 '39 29975 3? +2 +3 (32 9 4: +3 /' ('* +3 32)'39 2@)39 /4*9'9 3? 4: 4*)(3* 54* +9 2*? 549 4: +35 29/ '@3? 4 752 =+2 +3(/4*9'?3 3? 29 +3 '* 4?7/ '4* 4: 2 @3 3 /2)3*?2 %4 +'9 3294* '*/'79 9335 9 4 +2;3 3?7/3? +3 *75@3 4: +3 2*/'3* (32 9 =+'/+ +3):47*? '* +3 2@)3 4: +3 64* '::9 4 2* 3R7';2)3* *75@3 4: /45 54* (32 9 2*? 2//4 ?'*< 4 +3 2@4;3B53* '4*3? 29975 6 '4* +'9 =29 /3 2'*)(*3 /3992 (:4 ?3 3 5'*'*< +3 364/+ 4: +3 :47*?2 '4* 4: 453 =' + 3:3 3*/3 4 2 ?'::3 3* 3 2 +3 =4 3'<*9 4: 752 2*? 457)79 '*?33? =47)? 4*)(<';3 2 ?'::3 3*/3 4: (32 9 7 7*'79 2//+2*79 2* 35'*3* '*;39 '<2 4 4: 2*/'3* /79 459 52'* 2'*3? +2 +3 4)? /2)3*?2 /4* '*73? '* 793 7* ') +3 '53 4: 2 R7'*'79 +2 '9 '9/79Z 4= +3 64* '::9 3/E4*3? (32 9 @3:4 3 +'9 6'<* I! ': '*/'79 44E +393 4 @3 /(/)'/2) (32 9 +3 <4 3A2/)(2 93/)3 :4 +3 :' 9 :47 E'*<9$ 2*? ': +3 97@ 2/ 3? +3 ?'::3 3*/3 (32 9 : 45 +3 3 2 4: 4)(@'79 +3 397) :4 +3 @7')?'*< 4: +3 /' (=47)? @3 +3 ;3 (?2 3 X

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(&' +3' 3A'9 3*/3' 4:' 2*' 7*E*4=*' 947 +3 *' /4* 'C *3* ' =29' 2' 52 3 ' 4:' <3*3 2)' @3)'3: ' =+3*' 2*' 47 +*3' 4:' ' ' 793?' 4' @3' ? 2=*' 4*' 5269' 2*?' ' ' =29' ?3353?' 6 39756C 747?' '*/ 3?7)' (' 4' 3,3/ ' ' ' 29' 2' :'/ '4*' 2*' 3993* '2)' 93 ;'/3' =29' ?4*3' 4' E*4=)3?<3' @(' +3' ;4(2<3 9' =+4' 92')3?' 2/ 499' +2 ')'*3 ' 2*?' 9+3=3?' +2 ' +47<+' /3 2'*' 64'* 9' 2*?' /429 9' '*/)7?3?' '*' ' ' 32))(' 3A'9 3?' +3(' ?'?' *4 ' /4*:3 ' 2*(' 32)' (' 4*' +3' '52<'*2 (' /4* '*3* ' ' =29' 2' :7 +3 ' 9 36' 4' <';3' 2' /456 3+3*9';3' 6 44:' 4:' ' 9' *4*C 3A'9 3*/3 ' 7 ' +3' ?352*?9' 4:' <34< 26+(' /47)?' 4*)(' @3' 92 '9:'3?' @(' 2*' 3A25'*2 '4*' 4:' +3' 93;3 2)' '9)2*?9' =+'/+' 3A'9 ' '*' +3' 6)2/3'2 '@7 3?' 4' +3' 9766493?' /4* '*3* 9 2*?' +47<+' +3' *2;'<2 4 ' =29' E36 ' 4:.' 2*?' 6 3;3* 3?' : 45')2*?'*<' 4*' +35' @(' 33:9' 2*?' @ 32E3 9' +47<+' 5'9 9' 4@9/7 3?' +'9' ;'3=' 4:' +35 ' 9 ')' =+2 ' +3' 63 /3';3?' =29' *4')4*<3 ' 53 3)(' *3<2 ';3' <2'*9 2*?' 52*(' '*:3 3*/39' 5'<+ ' @3' ? 2=*' : 45' 47 ' E*4=)3?<3' 4:' 97/+' /47* '39' 29' =3' +2?' <44?' < 47*?9' :4 ' ?335'*<' 4:' +3' 9253' 4 ' 4:' 2' 9'5')2 ' E'*?' '*' +3' ' 6+(9'/2)' *2 7 3' 2*?' +3' ' 6467)2 '4*' =' +' +3' 3<'4*9' =+'/+' /47)?' *4 ' @3' '5 53?'2 3)(' 3A6)4 3? ' 25' *4 ' '*R7' '*<' =+4' @7')' 453' 4 ' =+4' <2;3')2=9' 4' +3 9' @7 ' =' +' 3<2 ?' 4' +3' R739 '4*9' =+2 ' 453' =29' @3:4 3' +3 ' +'9 4 (' @3<'*9' 2*?' +4=' 9+3' < 3=' 47 ' 4:' +3 ' / 2?)3' 9453' '*:4 52 '4*' 52('@3'<)32*3?' : 45' 2?' '4*9' 2*?' : 45' +3 ' '*9 ' 7 '4*9' +2 ' @(')4*<' 53C ?' 2 '4*' 4*' +3' 97@,3/ ' +29' 4' 53' @3/453' /)32 ' 2*?' /3 C 2'*' ' 25' *4=' 2@47 ' 4' /4557*'/2 3$ *4 ' '*' +3' :4 5

4:' 2*' 3*?)39' '*;39 '<2 '4*' 4:' 3;3 (' 5'*7 3' /' /759 2*/3'
4*' =+'/+' ' +7')?' 5 (' /4*/)79'4*9' @7' 4*' +3'6 '*/'6)3' 4:'
2993 '*<' *4 +'*<' +4=3;3' 9)'<+' =' +' 2*(' 4 +3' +2*' +3'
6 3/'93' 9+2?3' 4:' /4*;'/ '4*' =+'/+' ' +29' '*' 5 (' 4=*' 5'*?'
2*?' 2))4='*<' 5 (93):' 4' 3A3 /'93' +2' : 33?45'4:' ,7?<353*'
=' +47' =+'/+' 97/+' 2' 29E' @3/4539' 2' @7 +3*

+2' 452' =29' *4' 2' 2 '*' *253' =29'299753?' 4'
@3' 93):B3;'?3* JI.G 2*?' +3 3' /2*' @3' *4' ?47@' +2' +3' /' ('
+2?' 2*4 +3' 4:' 2*' 2)'2*' :4 5' =+'/+' =29' 793?' '*' +3'
92/ 3?' @44E9')'E3' +3' 5 (9 3 '479' *253'4:' +3' '@3' +3'
*253' 452' =+'/+' +29' 2' 33E')44E' +E3' +2' 4:' +3'
3'<+@47 '<' 4=*' 4:' (<' @3)4*<3?' 4' +3' /' ('2' +3'
'53' =+3*')'E3' 2))' +3' 8 ?=*9' 47*?'2@47' ' ' =29' 3)29B'
<'2*$ 4' +3')')3' 452'4:' +3' '/3)'2*9'4' (+3*'2*9'
4*' +3' 2)2 '*3' +'))' ' 3535@ 2*/3'4:' +2' '53' '9'6 3C
93 ;3?' '*' +3' 9 4 (' 4:' * '4/+79' +2' '/3)79' /253': 45'
452$ 2*?' 2)94' '*' +3' 752*' /+ 4*'/)3.G 2*?' ':' +3 3'
=3 3' 2*(' 33E' = '3 9' =+4' /2))3?' 453' 2' ,* +3B'
'2' /' (II' ' +2;3' 2) 32?(' 9 2 3?' 5 (' @3)'3:' +2' 2'
)329' '*' 93;3 2)' 4:' +35' 2*?' 4 <'*2))(' +'9' 7*)7/E('
25@'<7479' *253' ?'?' *4' 532*' +3' 79/2*9' @7' +3'
2*/'3*' (+3*'2*9' +3 +3' 452' :3))' '* 4' +3' +2*?9'
4:' +3' 29/2*9' =+3*' +3(' 4;3 64=3 3?' +3' '/3)'2*9' '9'
?47@ :7)G @7' ' ' '9' 549' 6 4@2@)3' +2' 9+3' =29' 2' 4*3'
'53' 254*<' +3' 2 '*' 4=*9' =+'/+' =+')3' +3(' 3 2'*3?'
+3' ': 33?45'2/E*4=)3?<3?' +3'976 352/(' 4:')@2

))' +3')3<3*?9' 2< 33' +2' +3' 2)2 '*3' +')'=29' +3'
4 '<'*2)' 9' 3' 4:' 453' 7?<'*<' : 45' +3' 54?3'4:' :4 'C
:'/2 '4*' '*' 793' 254*<' +3' 6346)3' 4:' +3' /47* (' =3'
579' 9766493' +2' ' ' /4;3 3?' +3' =+4)3' +'))' +3' 9'?39'
4:' =+'/+' +3' '*+2@' 2* 9' /7' 2=2(' 29' =3))' 29' +3(' /47)?'
4' 4=*' '*' +493' ;3 (' 354 3' 2<39' =47)?' +2;3' @33*' 94

U' "(.0) 2-/ 8' aZ 04"8' 5- 2-'2.) -' 80418' "' 824' 780'
'2.8' 1--1' @0!21.28'

A' 11' 80'1' F /

HK 08*- 2-/ "-' .161..1:' '0' 8' 80'1' FB

6)2**3? +2 +3)'*3 4: ' =2))9+47)? 6299 2)4*< +3 ;2))3(' 47*? +3 +')) 2*? 4*)(' '* /47 93 4: '53 +3 3 29 2 +3*9 ?'? +3 4 <'*2) /' (' @3/453 +3 /' 2?3

+2 2/' 79 9632E9 4: 29 +3 645^ '75 4: 4B 57)79JJJ =29 2* 3*)2 <353* 4: +3 4 <'*2) /456299$ 2E'*< '* 2 97@7 @ 4 @4 47<+ 47*? 2@47 +3 /' (9/2* ')(' :4 ':'3? =' + 2 53 3 =2)) 2*? *2 4= ?' /+ 29 +3 /+ 4*'/)39 ?39/ '@3 +3 4 <+" 47*? %)4 3*/3 +'9 =32E :4 ':'/2 '4* '9 +3 4*3 +2 3579 '*97) 9 '* +3)3<3*? +3 =4 ? ' 93): 9335 9 6 463)(' 4 ?3*4 3 2 97@7 @ 2E3* '* 4 +3 /' (2*? '*/)7?3? =' +'* +3 2*<3 4: ' 9 2796'/39 //4 ?'*< 4 2/' 79 +2 4: 457)7 2* ' 45 +3 %4 75 42 '75 Y +2 '9 : 45 +3 *3'<+@47 +44? 4: +3 2*79 =+'/+ 2//4 ?'*< 4 2 2?' '4* 4*3 =47)? <)2?)(' @3)'3;3 =29 /4*9'?3 3? '* +3 5'??)3 2<39 29 +3 352'*9 4: +3 62)2/3 4: 43 +'79 +3)29 4: +3 452*9 Y + 47<+ +3 ;2))3(' 4: +3 ' /79$ +3* : 45 +3 36 'H4*'75 4 2@47 +3 @3<'5''*< 4: +3 "'2 ?3) 4)49934 2)')3 @3)4= +3 @2 +9 4: 2,2*JI$: 45 +3*/3 2)4*< +3 46 4: +3 "3)'2 4 +3 /+263) 4: +3 2 39$ 2*? :'*2))(' @(' @3 "'2 2/ 2 4 +3 %4 75G +3 3 =29 2 9=256 32/+'*< 4 +3 "3)2@ 75 *4 +3 @4 47<+ =+'/+ +4=3;3 =29 7*/4**3/ 3? =' + +3 4=* 4* +3 2)2 '*3 2*? 6 4@2@)(' =29 4:)2 3 4 '<'* 9 44? 4* +3 2 '*29 *32 ' '3 4 '* "'*/4)2 ' +2? 2* 32 +B=2)) 4=2 ? +3 7@7 2 +3* +3 ;'))2<3 4: 7B /792JG 2*? +3 <2 3 2 +3 :44 4: +3 "'5'*2) 964E3* 4: '* +3)3<3*? 4: +3 2@'*3 =2 +3 4 2 2*72)'9

I **2) ;

Y 04408!*('"!!1: ',1)"',1 06 '2- !08:2- 8 6028: ', -: -'. ("-'!!:1-(.)1: 8!17"!:0(2418'-"-',1 2. " 1'2-/"8: -0 ("!!1:)* ',1 8,") '"8'-? 04- 8-'"2."'"/ ,- !81 ,0+1@1. -114- '0 : @1.71 6". '00 42(,

"..Q/:1 @

JJ "(.0)2-/ F 24)1!!0 ")80 04"8 50.'"4/92"1-2) ."': ()2- (0!!- 4 8"!- 1."'/ (!"2:1.1 61-'8".18' ,- - ',1 !1718: .1!"'1: ")0@1/5

/2*‘ +2;3‘ @33*‘ *4‘ 4 +3 ‘ +2*‘ +2 ‘ =+'/+‘ /)493?‘ +3‘ @4 C
45‘ 4:‘ +3‘ 29/3* ‘)32?'*< 76‘ 4‘ +3‘ 2 '*23
+3‘ 352 E‘ 52?3‘ @(‘ #'4*(9'79‘ +2 ‘ +3‘ @4 '<'*39‘
?=3) ‘ 764*‘ +3‘ +'))9‘ '*‘ 2‘ *75@3 ‘ 4:‘ 9/2 3 3?‘ ;'))2<39‘ '9‘
/4*:' 53?‘ @(‘ +3‘ 9 2 3‘ 4:‘ +3‘ /47* (‘ 2@47 ’ +3‘ 4 '<'*2)‘
4=*‘ 4:‘ 452‘ =+2 3;3 ‘ 46'*'4*‘ 52(‘ @3‘ 3* 3 2'*3?‘ 29‘
4‘ +3‘ 6 '5' ';3‘ '*+2@' 2* 9‘ *3‘ 4:‘ +393‘ 6)2/39‘ 29‘ ‘
+2;3‘ 2) 32?(‘ 4@93 ;3?‘ =29‘ 6 4@2@)(‘ /2))3?‘ 357 '2C 4*3‘
4*‘ +3‘ 4 +3 ‘ 9'?3‘ 4:‘ +3‘ ';3 ‘ 9453=+3 3‘ *32 ‘ ‘ *4: '4‘
"2 '/2‘ 4 ‘ "2 '/75C :4 ‘ : 45‘ 2‘ 6)2/3‘ =' +‘ 97/+‘ 2‘ *253‘
579‘ /453‘ +2‘ 4:‘ +3‘ ‘ > ‘ ‘ +3‘ 2?' '4*‘ 44‘
=+'/+‘ 6)2/39‘ 2*4 +3 ‘ ;'))2<3‘ 4*‘ +3‘ 2*'/7)75 ‘ 9335‘
?393 ;'*< 4:‘ 2 3* '4* ‘ =3;3 ‘)')3‘ 52(‘ @3‘ ?73‘ 4‘ ' 9‘
6 3 3*?3?‘ *2539‘ ' *32 ‘ 4 ‘ * '64)'9‘ . ‘ +393‘ ;'))2<39‘
579‘ +2;3‘ @33*‘ +3‘ :' 9 ‘ +2 ‘ ?'926632 3?‘ @3:4 3‘ 453
+3‘ 4 '<'*2)‘ 3 ' 4 (‘ 4:‘ 453‘ =29‘ @47*?3?‘ @(‘ +3‘
'@3 ‘ 4=2 ?‘ 7 '2‘ 2*?‘ 4*‘ +3‘ 4 +3 ‘ 9'?39‘ @(‘ +3‘ 4=*9‘
4*‘ +3‘ *3'<+@47 '*< +'))9‘ J\$ '*‘ +3‘ ?' 3/ '4*‘ 4:‘ +3‘ 932‘
2)4*3‘ ?'?‘ ' ‘ 3A 3*?‘ 4‘ 2*(‘ ?'9 2*/3‘ 4‘ +2 ‘ +3 3‘ =29‘
4‘ '?363*?3* ‘ 93)353* ‘ 4*‘ +3‘ ;3* '*3'*‘ +493‘ ?2(9C
4*‘ +3‘ 23)'2*‘ +4=3;3 ‘ =29‘ +3‘ 4=*‘ 4:‘ =+'/+‘ ‘ 9+2)‘
9632E‘ :7 +3 ‘ 4* ‘ 7 ‘ 4:‘ '*/4562 2@)(‘ < 32 3 ‘ '564 C
2*/3‘ =29‘ +3‘ 4*3‘ 4*‘ =+2 ‘ '*‘ 32)(‘ '539‘ =29‘ /2))3?‘ +3‘
<4*'2*‘ +'))‘ +3‘ 4=*‘ 4:‘ =+'/+‘ +3‘ 26' 4)'*3‘ 52(‘ @3‘
/4*9'?3 3?‘ 29‘ +3‘ /' 2?3)‘ %4 ‘ +3‘ 9E' 9‘ 4:‘ +393‘ =4‘
+'))9‘ 53 ‘ '*‘ 2‘ 964 ‘ =+'/+‘ 2: 3 =2 ?‘ :4 53?‘ 2‘ 62 ‘ 4:‘ +3‘
%4 75‘)6'75$‘ =+')3‘ 2‘ 9=256‘ 2*?‘ 52 9+‘ 3A 3*?'*<
: 45‘ +3‘ "3)2+ 75‘ 2/ 499‘ +3‘ %455‘ 29‘ :2 ‘ 29‘ +3‘ 7 ‘
+7 2‘ 9362 2 3?‘ +'9‘ 4=*‘ : 45‘ 452‘ 4*‘ +3‘ 2)2 '*3 ‘
:‘ =3‘ 9+‘ 4‘ E*4=‘ +3‘ *253‘ 4:‘ +'9‘ 4=* ‘ ‘ +'*E‘

g ‘ 6'1.‘ ' ,1‘ "8"!07*‘ 06‘ ' ,1‘ ‘ ; ‘ ' ‘ '" :‘
' "8:‘ ' ,1‘ ! D1

A‘ 08*- 2-/ ‘ B ‘ H! 8*/ 8 ‘ V

K 1-'2-/ ‘ H10'2-(24‘ H"!"' ‘ '" .17 0‘ 2.) -/ 92"4‘ 042!2-‘
0)@1.-"4‘ 50-2 '/ 1'" 5".'1‘ 8‘ 92'" 5!2. 424‘ 1."" "7. ‘ 04"8‘ ":‘
4".1‘ @1.-2-‘3 (28# '.2-(0.24‘ "7. 4‘ '" 04"80)1. -‘ : -(!2:1.1'/
(1'1."1‘ @ (8"1‘ (@ '('1-‘ (0!!1-‘ "! 920-‘ , ")1.18" 0550- '0-

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52(' 299753' =' +47 ' 9/ 76)3 ' +2 ' ' ' =29' w7' '756 :4 '
+2 ' 4:' ' 9' '*+2@' 2* 9' =29' w J' 39JJ ' +3' ?3 ';2 '4*'
4:' w7' ' 39' : 45' 9 ' '9' ;3 (' 2=E=2 ?' +2 ' : 45' '
/)32)(' 3 4*3479 ' 997 3?)(' 44' '*' +3' 32)'3 ')3<3*?'
752' =29' 36 393* 3?' 29' 2J /' 'H3*' 4:' w7' '75 ' *4 ' 4:'
7 39 ' +3')2 3 ' *253' 4:' +3' +')) ' +3' w7' '*2) ' '9'
?3 ';3?' : 45' +2 ' 4:' +3' 4=*
)'2 ' +'9' +')) ' =29' '*+2@' 3?' @(' +3' 2@'*39 ' '9' 29'
/3 2'* ' 29' 2*(' =3))B39 2@)'9+ ' :2/ ' '*' +3' 2<39' :4 ' =+'/+'
=3' +2;3' /4* 3564 2 (' +'9 4 (' 4 ' '9' +'9' /3 2'* ('
)3993*3?' @(' +3' /4**3A'4*' @3 =33*' +3' '!2?' '4*' 2*?' +3'
=2 ' 4:' 2 '79' 2*?' +3' +3 4'/')2(' +2 ' +3' 2@'*39'
=3 3' 2*' 3)353* 2 (' 62 ' 4:' +3' 452*' 6346)3 ' 26632 9'
: 45' 47 ' :'*?'*< +2 ' 549 ' 4:' +3' 452*' 3)'<'479' /3 3C
54*'39' =3 3' 2@'*3 02*?' =3 3' 29/ '@3?' 9453' 4' 2 '79@!'
4 +3 9' 4' 752 ' +3' /4**3A'4*' 44' @3 =33*' +3' w7' 'C
2)' 2?' 26' 4)'*3' +'))9' =29' 6 393 ;3?' '*' 7*?'967 3?' 3C
/4))3/ '4*Z ' +3' 6)2/3' =+3 3' +3' +4793' 4:' 2 '79' +2?'
9 44?' =29' 9+3=*' '*' +3' 26' 4)' 4*' +3' 964 ' (+3 3' +3'
356)3' 4:' 4*3 2' =29' 2: 3 =2 ?' @7') ' +3' 2@'*39 '
=+3*' +3(' +2?' ? ';3*' +3' 29/2*9' 2*?' +3' 5@ '2*9' @3C
:4 3' +35 ' E36 ' 4*' 679+'*< :4 =2 ?' ?4=*' +3' '@3 '
3*/3' =3' :'*?' +3' ' 4=*9' 4:' 4))2 '2' 2*?' 3<'))75' '*'
+3' 5'?9 ' 4:' +3' 2 '*' 4*39' '*' +'9' ?'9 '/ Z ' +3' 2 '*

6'1.' ',1' "8"!07*' 06' ' ' *' ',1' +"*/ ',1'
'0+8/ '" (' _18' 06' +, (,' +"-' ("!!1:' ' S (1.0' 5.0' !08 '
(' B#/ '" 8"41' "!'1.1:')*' ',1' (. ' (-' 8'0' ' "7" 8-" ',1'
"2',0. '*' 06' ',1' 4"82-(. 5'-/ 42-" ,"@1')118' - , ' ,1'
0',1.' '0+8' +"-'

>0 "..Q/ :1' ' '@ ' ' 5 ' ' 08*- 2-/ '

U' ' :; ' $,' , * ' ' :5;@.' 3'
S0! ' ' /$ ' 08*- 2-/ ! ' ' 81' ("8' .1": !*')1! 1@1'
',"' ',1' 6 .-" ") 81' -1''!1418" +"-' 08' ',1' ".51 "8' .0(D' ? (24'
") 8 ' "5 '0! 24' "'921' ".(14' 45!1--18" ? @*/ ' ' T ,18' ',1'
I28(' 08' 06' ',1' M2 . 8"!' + ',' 041' -' "-(.)1:/'0' 24 '" S 08*- 2-/
6' N #/ ', -' -' 8' .161.18(1' '0' ',1' ") 81' (,"."('1.' 06' ',"' , %

U' H!2'".(,/ 042!' ('
' &0!!"' "/ 1" 92 :92 :' (.(" 0!!"' "4' "7. ' 1. '/ ") 8 -

F

2 ;26'? '* 3 6 3 2 '4* 4: +3 643 '/2) 9 4 (2 +'*< 9+47)? 3,3/ =' + ?'9<79 ': '* 3 6 3 +3 263 4: +3 2@'*39 2*? +3 =2 =+'/+ @ 4E3 47 '* /4*93R73*/3 29 '*?'/2 '*< +2 2 4*3 I53 *4 '<+ 4: '* 3 52 '2<3 97@9'9 3? @3 =33* +3 =4 /' '39 7* ') +3 4*3 =+'/+ +2? @33* '* 97@,3/ '4* 2'93? ' 93): @(2 59 4 2* 3R72)' (2*? 3;3* 4 2 6 364*?3 2*/3 4: 64=3 +3 6 393 ;2 '4* 4: 457)79 2*? 3579 '9 2 :2@)3 =+'/+ 52(629 : 45 +3 +3 4'/ 643 (4: 4*3 6346)3 '* 4 +2 4: 2*4 +3 4 52(2 '93 '* 93;3 2) 6)2/39 29 ' =29 4)? 4: , 79 '* +3 29 2*? 4: 2@'9 '* +3 39 @7 +3 263 4: +3 2@'*39 3)2 39 4 2?' '4*9 4: R7' 3 2*4 +3 E'*?

0 '3* +3 =4 /' '39 =3 3 7*' 3? 4* 3 59 4: 3R72)' (+3(@7') +3 ?47@)3 2*79 4* +3 42?)32?'*<0: 45 +3 w7')'*2K 4 +3 2)2 '75 =' + 2 ?44 :2/'*< 32/+ 4: +3 /' '39 29 +3 <2 3 4: +3 ?47@)3 +2 '3 =+'/+ 9362 2 3? +3')'@3 '39 =29 463* '* '53 4: =2 +2 97//47 5'<+ 6299 : 45 4*3 4 +3 4 +3 '$ 2*? 9+7 ?7 '*< 632/3$ =+3 +3 :4 +3 67 6493 4: 6 3;3* '*< 2* 7* 39 '/ 3? '* 3 /47 93 47 4: =+'/+ R72 3)9 5'<+ 2 '93 4 29 2 4E3* +2 +47<+ 7*' 3? +3(=3 3 ?'9 '*/ +3 @47*?2 (@3 =33* +3 =4 4=*9 =29 6 4@2@)(52 E @(+3 "'2 2/ 2$ =+'/+ /253 ?4=*! : 45 +3 46 4: +3 "3)'2 @3 =33* +3 w7' '*2) 2*? +3 2)2 '*3 6 4(63)(94 /2))3? 2*? +3* 52E'*< 2 @3*? 2* @3 =33* +3)2 3 2*? +3 26' 4)'*3 29 :2 29 +3 356)3 4: "39 2 =+3*/3 ' 7 *3? '<+ 2/ 499 +3 45' '75 4(=2 ? +3 <2 3 4: +3 2)2 '*3 =29 3;'?3*)(?39 '*3? :4 /45 54* 3+<'479 6 4/399'4*9

54*< +3 ;39 '<39 4: +3 ,4'* E'*<?45 =29 +3 ?47@)3 + 4*3 =+'/+ 457)79 3 2'*3? 2: 3 +3 ?32 + 4: 3579 3 52(2)94 ?'9/3 * 2 9(5@4) 4: +3 ?47@)3

,1 "82- M2 . 8 ,1 0',1 "82-1- 8',1 "(."+1.1 06',1 -"8-1 D 8:

< 11 5 B/ 8 N

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2 +3)329 +3 =4 *2 '4*9 +2;'*< *4= @3/453 4*3 =3 3 9 ()3? 4* 2 94)35 * 4//29'4*9 (O 4 6 463)(2: 3 +3 4)? 452* 792<3 4: /45C @'*'*< 97/+ *2539 @(53 3,7A 2649' '4* (O $ =+'/+ '*)2 3 '539 =29 ?'9 4 3? '* 4 (O) %4 2) +47<+ +3 *2539 O 2*? # =3 3 97@93R73*)(3R7';2)3* +'9 47<+ *4 4 9+2E3 +3 / 3?' 4: +3 2?' '4* +2 +3 :4 53 =3 3 6 463)(+3 2@'*3 97@,3/ 9 4: 2 '79 '9 329(4 7*?3 9 2*? +4= 2: 3 2)) ?'9 '*/ '4* @3 =33* +3 452*9 2*? +3 2*/'3* w7' ' 39 +2? /329 +3 *253 =29 2*9C :3 3? 4 +3 6)3@3'2*9 =+4 =3 3 *4= 6)2/3? '* 9'5')2 /' /759 2*/39 =' + +3)2 3 (+'9 7*'4* 457)79 =29 /4*;3 3? '* 4 w7' '*79C 2*? w7' '75 6 4@2@)(@3C /253 +2 5(9 3 '479 2 '* *253 4: 453 +3 7 3 C 2*/3 4: =+'/+ =29 :4 @'??3*

+3 3;3 53* '4* '9 52?3 4: '@39 '* +3 32)(62 4: 2*/'3* +'9 4 (@3:4 3 +3 63 '4? =+3+ 2* ' 39'9 '@)3 /+2*<3 '* +3 /4*?' '4* 4: 94/'3 ( )3? 4 ?354/ 2 '/2) '*9 'C 7 '4*9 ': 2*(?'::3 3*/3 4: '<+ 9 6 3;2')3? 254*< +35 2*? 2*(+'*< /2* @3 ?'9/3 *3? 4: +3' *2 7 3 ' 9 52C *':39 +2 +3(=3 3 3' +3 ?'9 '*/ /29 39 4 4: ?'::3 3* 4 'J*G 2*? 3;3* +3 ?'9 '*/ '4* 4: /29 39 =+3 3 ' /2* @3 2//47* 3? :4 2)=2(9 2 493 : 45 '5 5'< 2 '4* 4 : 45 /4*R739 3;3* '* <(6 2*? *?'2 +'9 :2 3 +3 3:4 3 579 +2;3 @33* 3A63 '3*/3? @('/2 3;3* @3:4 3 +3 4*'2* '5 5'< 2 '4* ': +3 *4 '4* +2 +3 3 =3 3 2 4*3 '53 + 33 '@39 +3 3 :4 53? @(+3 *4@)39 +3 63292* 9 2*? +3 / 2: 953*. . @3 2*(+'*< 54 3 +2* 2 ? 325

, - -1-'")! -, * ,1 !1".81: . --08'2-/ :1 0.4 5 N ? ,1 08!*701- '00 6". 8 452' 87 ',1 !"'1.(0..25' 08/ +, (, @*6028: "!.1":* 8 2-1/ '0 ',1 '."8-(.)1.-/ "8: 8 + -, 87 '0 . : 04"8 +. '1.-06 ' , -1;"771."' 08 +"- ',1 ("2-1 +, (, 5.1@18'1: ' , "' 1;(1!!18 (. ' (/ C.080@ 2-/ 6.04 51.(1@87 ',1 '.2', 06 , - .14".D ?)-- @ A ' -! D1 '"8:

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'))' *32 3 ' 453 =3 :'*7 2 9'5')2 ' '*9 2*/3 2 ' 2* 72G =+3 3 +3 " ' ' ' ' # ' 254*< +3 + 33 '@39 /2*' 4*)(' @3 3A6)2'*37 4 532*' +2 ' +3 7)'*< '@3 /4*9'9 37 4:' 79/2*9$ +3 4 +3 9 4:' :4 3'*3 9' 'C <7 '2*9' 4 ' 5@ '2*9

+79 +3 /' 'H3*9 4:' +3 =4 4=*9' =+3*' +3' ' /4*C :3?3 2/(' =29 /4*;3 37 '* 4 2 7*'4*' @3/253 +3 535@3 9 4:' =4 '@39' +3 25*39 2*7 +3 ' '39' =+493 *2539 2 3 ?3?7/37 =' +' 4*3 /4*93*' : 45' +3' ' 4(2) :47*?3 9' 7' 2)4*< =' +' +35' =3 :'*7 2' +' 7 '@3' +3 7/3 39$ 2 *253 +3 3A6)2*2 '4*' 4:' =+'/+' =29 2 52 3' 4:' 57/+' /4* 4;3 9(' 254*< +3 452*' 2* 'R72 '39' 49' 4:' +35 I I' ?3 ';3? ' ' :'045' 7/754' 2 6 3 3*?3? 79/2*' 2))(' 4:' 457)79' =+4 '9 92'?7 4 +2;3 :2))3*' '*' +3 2@'*3 =2 I\$ 9453!' :'B45' 7/3 79' 2 E'*< 4:' ?32 I I' *' 4 +3' =4 ?9' +3 /' 'H3*9 4:' +'9 '@3 =3 3 +3)?7 @(' +3 :4 53' 4 @3 79/2*9' @(' +3)2 3' 4 @3 (+3*'2*9 ' 63 :3/)(' *2 7 2)' 3A6)2*2 '4*' '9 9766)'3?7 @(' 2*4 +3

T 8' "' 80'1' 08 U 8 ' ; ' /"8:' 60 ! ='-1:' 808 7182-' 048)2-' 2824 C18-' !!' '. 5!1 ;/ 5052!' -2)' 718'1' 92"'1.8 '? 5-'" ("52" 5052! -/ 2-(0 :1' -"872 81' @ .1-' ? 1.@ 2-/ +.1'(,1:!*' "-' ,1' ,"-')118 42' !"'1:' 8' ,1' !"'1.')00D-/ ,"-' *1" 5.1-1.@1:' '" -(,0! 24' 06 -041' @"!21'? 92 '" "8'2"' .1-' ,") 2 " 5052!' '. ,2-/ 92"1' 8 92"'1.8"-' (2. "-' : @ :1)"8'2. ' J ' -'2-1:' 60.' ' "-' ,1' '18' '.)1-' 06 ' ,1' H1.- "8-' ".1' ("!!1:' ' 8 1.0G :0'2-/ / "8:' ,1' ' 1' ,1' (,-1418 :-' -' 8(!2:1:' 8' ,1' ' 06' ,1' H"-".7":-' 8' ,1' 5"--"71' 06 .7 !' ,0+1@1.' ,1' : @ G - 08 "((0.: 87 '0 :1-(18" "551".-' '0' ,1' 4 ;" 25' + ',' "' !0("!' 081'? ,1' ' -114' '0)1' '+1!@1' :141-' 8' ,1' '1.. '0.*' 06' "8'2"' ' !1"-" ,1' +0.:-' 4"*' 8"'2."!!*' 41"8/ I ' ' ' 1' ' B ' H +,1.1"-' ,1*' 42-")1' @1.*' "." 6 ("!!*' -'." 81:/ 6' .7 !' 8'18:1:' '0 -"*/ ' ' ' 1' 1' ' ' ' ' ' ' 8' ' ' ' 1.@ 2-' -"*-'? ' ' ' ' " ' S6.04' ,1' .2! 87 '.2-("8-#

Y' @18' (1.0/ :1' 1'5' '

Y' 1.1!*')1("2-1' ,1' 81@1.' "551".-' "6'1.+".:' ,1' 1' 0, ' S-11' 1-'2-# 62.' ',1' 2(1.1-' 42-" ,"@1')118' (086 81:' '0' 501'-' Y' 1-'2-/ @' 2(1.18-1-

:4 5 4: +3 *253 P =+'/+ 52*':39)(' /4539)'E3 '@7 39 : 45 +2 4: 2 6)2/3 7 3 4 7/3 75 +393)'E3='93 =3 3 +3 /' 'H3*9 4: 2 9362 2 3 4=* =+4 =3 3 '*/4 64 2 3? 2*? :4 53? 2 *3= '@3 +3 9' 3 4: +3' 4=* 579 @3)44E :4 4* @3 5)'2* +'9 +'))B '9 92'? 4 +2;3 :4 53? 62 4: +3 /' (' 3;3* '* +3 '53 4: 457)79 7))79 49 ')'79 +4=3;3 '9 /4*9'?3 3? 29 6 463)(' +3 :47*?3 4: +3 93)353* 764* ' '* /4*C 93R73*/3 4: +'9 @ '*<'*< +3)@2*9 +' +3 6 94 +2 +'9 =29 +3 2@4?3 4: +3)@2* +47939 =+'/+ +3 2'93? '* 4 452* 4*39 29 +2 4: +3 2@'*39 =29 4* +3 w7' '*2) @ 2*/+ 4: +3 452*9 =29 3:3 3? 4 7))79 '* +3 9253 52**3 29 +3 =4.'6 '52 (' '@39 4 457)79 2*? 752 2*? +3 6)3@9 4 */79 +393 :47 E'*<9 =3 3 964E3* 4: 29 +3 27 +4 9 4: +3 2*/'3*)2=9$ 2*? 4*)(' +393 *4 2 R7'*'79 99'<*53* 9 4:)2*?9 44 =3 3 29/ '@3? 4 +35 2))' :47 : =+'/+ '9 2 52 E +2 +3(' =3 3 3<2 ?3? 29 +3 :47*?3 9 32/+ 4: 2 ?'9 '*/ 62 4: +3 452* *2 'R* 4= +3 4*)(' 62)3: :4 7))79 2 3 +3 7/3 39$ 94 +2 +393 579 @3 +3 9253 =' + +3 /' 'H3*9 4: +'9 4=* 4* +3 5)'2* =+'/+ 9+2)' !+3*/3:4 =2 ? /2))' 7/3 75 =' +47 :7 +3 6 3:2/3 4 +3 9253 964 2 3 =3)3? @(' +3 9 4 (' =+'/+ ?3 ';39 +3' *253 : 45 7/754 '* +3 '53 4: 457)79 %4 +'9 7/754 '9 *4 4 +3 +2* +3 79/2* /26 2'* 23)39 "'@3**2 =+4 '9 92'? 4 +2;3 93)3? 4* +'9 +'))' =' + +'9 @2*? 4: :4))4=3 9 2*? : 45 =+45 ' 9 *253 =29 ?3?7/3? ' + 3<2 ? 4 +3 E'*< =+4 3/3';3? +'5 +3 3 =3 3 ;3 (' ?'::3 3* 9 2 353* 96 9453 4: +35 =3* @2/E 4 +3 '53 4: 457)79 I .$ @3/2793 +3 23)'2*

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K' 08*- 2-/ 2 " #3 'HO06 LO ! 80Lc. 0@ " 8-

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U 08*- 2-/ N I@: I \82I : %]8#a2 2 $ (<'= ! >? @ 6 "" # $

@3)4*<3?' 4' 453' @3:4 3' +3' 7*'4*!=' +' +g' 2@'*39'
+3' 64=3 :7)' 79/2*' =29' /4*/3';3?' 4' @3' 2' 7/754GB'
+'9' 26632 '*<' 7*?3 ' +3' =4' :4 59' 4:' 7/754' 2*?' 4:'
23)'79' 'g' 4='*<' 4' +493' =+4' +3)?' +3' :4 53 ' 4' @3'
2' 6 463 ' *253

9' 752' +3' :2 +3 ' 4:' +3' ')39 ' =29' 52?3' 4' /453'
: 45' 7 39' 7))79' 49 ')'79' =29' @ 47<+ ' + 47<+' +'9'
:2 +3 'km' : 45' 3?7))'2 ' 2' 2 '*' 4=*' =+'/+' +2?' @33*'
/4*R73 3?' @(' +3' 452*9 ' +'9' '56)'39' +2 ' 7/3 75'
=29' '*' 2' 9 2 3' 4:' 97@,3/ '4*' 2*?' =29' '*+2@' 3?' @(' 2'
2 '*' 2/3 ' 2* 3 '4 ' 4' +3')@2*' 93)353* ' 4' ?439'
+3' 2//47* ' +2 ' +3' 23)'2*' =29' 97@,3/ ' B 4' +3' 452*'
E'*<9' '*' +3' ?2(9' 4:' 2 '79

9' +3' /' 'H3*9' 4:' 32/+' 4:' +393' 6)2/39' :4 53?' 2' 93C
62 2J' '@3 ' +3' 3 ' 4 (' @3)4*<'*<' 4' 32/+' :4 53?' 2'
3<'4*' '*' +3' 67@)'/' ?452'* ¦ I ' ! +'9' '9' 3 4*3479)(

' k<' 08*- 2-/ 8 ' ' -' @0!28'".*' .140@"!' -' '" .1(18" "!'1."G
' 08/ 60.' ', 1' -"D1' 06' 5.1-1.@ 87' "8' 4 "7 8".*' :1(0.24'? 8' ', 1' 0!:'
!1718:' ,1' 42-" ,"@1')118' "4087' ', 1' ("5' @1-' +,0' +1.1' ("... 1:' "+"*'
'0' 041' " -')*' 80' 41"8-' 81(1--".*' '0' .17". .:' ', 1' :1. @"' 08' 06' ', 1'
0-' ! ' 6.04' 1:2!! '" "-' '" 6 (' 08' ,1' -2.8" 41' 06' 1:2!! 82-' 8'
', 1' "-' ' -,1+-' ', "' '" 6"4 !*' 06' ', 1' 2. ' +1.1' 06' ', 1' -"41' 0. 7 8' 3'
"-' :01-' ', "' 06' "41. 82-' ', "' '").*8(,' 06' ', 1' 2!5 (' (" 6 1' 6.04'
"41. '"?)0',' '0+8-' "((0.: 87' '0' ', 1' !1718:' +1.1' .1:2(1:' "8:' 8G
(0.50."'1:')*' 042!2-' ' (08- :1.")!1' 824)1.' 06' 04"8' -2.8" 41-U
".1' + ', 02" :02)" :1. @1:' 6.04' ', 1' 8" 41-' 06' '0+8-/ 1@1.*' .1(0!!1(G
' 08' 06' +, (,' ,"-')118' 1."-1:' 6.04' , -'0.*'? ', 2-' ', 1.1' 42-" ,"@1'
)118' -2(,' '0+8-' "-' -(1!! '" "8:' "!270' ,1' ,02-1-' +, (,')0.1'
', 1-1' -2.8" 41-')1!0871:' 5.0)")!*' '0' ', 1' 2(1.1-'3' "-' "!!' ', 0-1' +, (,'
".1' ("!!1:' !)"8' ,02-1-' ": 4 ''1:')*' 2!!2-/ "8:' "((0.: 87!*' 1@18'
', 1' 2! / : :' 81(1--". !*' 4087' ,1-1' !)"8-' +1.1' ', 1' !01! '
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@ ! 2-' . -(2-/)0',' +, (,' -2.8" 41-' ".1' 1@ :18(1' 06' "' 8')!00:' '
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61.18" 8"' 08-'3 -2(,' "-' 92 !! 2-' 2-(2-/ (8 2-' 2) 82-/ 04 8 2-'
2.28(2-'? ', 1' 2.28("8-' +1.1' ', 1' 8"' 08' '0' +, (,' ', 1' "-("8-'
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"..Q/ :1' ' ' @/ F/ 5' B' 71.' 04"82-' 5. 424' : @ -2-'
8' 5".'1-' '.11'? '" 920' '.)2-' "551!!"'"0/ "48 24/ ' 18- 24/ 2
(1 l2 4

36 393* 3 29 2 ?'*9'4* 4: +3 2<3 +3 3 '9)399 '*C /4 3/ *399 '* +3 ;'3= =+'/+ 29/ '@39 +3 299'<* 53* 4:)2*?3 6 463 (4 +3 :47*?3 9 4: +3 + 33 '@39 +3 :' 9 + 33 E'*<9G :4 2//4 ?'*< 4 +3 6 '*/'6)39 4: +3 452* /4*9 ' 7 '4* 2) 97/+ 6 463 (352*2 3? :'B45 +3 367@)'/ +43;3 @3/253 2 /' 'H3* ?3)';3 3? 76 +'9 4 +3 9 2 3 2*? 3/3';3? ' @2/E : 45 +3 +2*?9 4: +3 9253 +3 '<*4 2*/3 4:)2 3 2<39 3<2 ?3? +'9 29 2 62 ' '4* 4: +3 ?452'*

* 3;3 (*2 '4* 4: 2* 'R*' (+3 3 =29 2 63/7)'2 '5 5354 '2) 54?3 4: ?';'9'4* '* 4 2 ?3:'*' 3'*75@3 4: '@39 : +3 /' 'H3*9 4: 2 9 2 3 =+3 +3 +3 =+4)3 @4?(4: +35 4 2 64 '4* 4:= +2 @4?(3*,4(3? 2* 3R72)' (4: /';') '<+ 9 2*? 2 +3 9253 '53 ?'? *4)';3 7*' 3? '* 2 /3* 2) /26' 2) @7 9/2 3 3? 2@47 '* +25)3 9 +393 =3 3 97@,3/ 3? 4 +3 9253 6 '*/'6)3 4: 2 2*<353* +3 #4 '2*9 '* +4?39 ?=3) 2//4 ?'*< 4 +3' '@39 '* ' 9 + 33 / ' ' 3 9 + 3 9253 ?';'9'4* @(+ 33 '9 +3 6 '*/'6)3 4: +3 ?'9 '@7 '4* 4: +3 2 '* 4=*9 2*? 4:)'3 6)3@3'2* '@39 29 =3)) 29 4: +3 /7 '39G +3 =4 :4 53)'E3 +3)2 3 =3 3 97@?';'9'4*9 4: '@39$ 2*? +3 :4 C 53)'E3 +3)2 3 /4* 2'*3? 4*)(2 ?3/7 (26'3/3 4: =+'/+ =3 :'*? 2/39 '* +3 2 '* 2?' '4* 36 393* '*< +3 :47*?'*< 4: 2;'*'75 29 ' 9 39 4 2 '4*. +79 +3 93*2 3 4: 2 2 '* 4=* /4*9'9 3? 4: 3* ?3/7 '39G 2* '*C 9 ' 7 '4* =+'/+ =29 3 2'*3? '* +3 2 '* /4)4*'39 2*? 6 393 ;3? 4 '* 4?7/3? @(+3 7)'2*)2= * 2) +3 57*'/'62) 4=*9 / 32 3? @(' =+3 3 +3 93*2 3 /4*C 9'9 3? 4: +3 9 2 3? *75@3 4: 2 +7*? 3? ?3/7 '4*9 +3 452* 93*2 3 =+3* /456)3 3? =29 :4 53? @(+3 7*' 3? 3*2 39 4: +3 + 33 4=*9 32/+ 4: =+'/+ 93* 2 +7*C ? 3? 93*2 4 9

+393 '@39 =3 3 *4 /29 39 &3 ': 2 *3= 9 2 3 2 493 ' =29 *4 2))4=2@)3 :4 ' 4 ?3;'2 3 : 45 +3

!)'2? m % $] " @ : 9 Ya, +3 #4 '2*9 3;3 (=+3 3 26632 29 6 A2-: B . 33 6

63/7)'2 ' :7*?253* 2)' '*9 ' 7 '4*' 4:' +3' *2 '4*' ' '@3)4*<3?'
4' +3*' #354*2A' 93)3?' +3' /4*9 ' 7 '4*' 4:' (3*3'
+3' 6+()39' +3' 39 2+)'9+ ' =3 3' ?'::3 3* ' : 45' +3' 4 '<'*2)'
#4 '2*' + 33' @3/2793' /' /759 2*/39' 52?3' 97/+' 2' ?'::3 C
3*/3' *3/3992 (G @7 ' 29' (3*3' =29' 97@9 2* '2))(' 2' #4 '2*'
/' (' 2) +47<+' 9453' 4*'2*' '*)2*?3 9' =3 3' '*/4 64 2 3?'
+3' '62 ' 3' ?';'9'4*' =29' E36 ' +3' 2@'*39' =47)?' 549 '
6 4@2@)(' +2;3' 2' ?'::3 3* ' ?';'9'4*' : 45' +3' 2 '*9G @7 '
2//4 ?'*<' 4' +2 ' ?';'9'4*' w7' '75' @3)4*<3?' '*' +3' 9253'
52**3 ' 29' 452' 4' 2' '@3' 4:' ' 9' *2 '4*' '3*' 452'
2*?' w7' '75' 9362 2 3?' : 45' +3' ' 3963/ ';3' *2 '4*9 '
2*?' 39 2@)'9+ ' 2*' '*?363*?3* ' 9 2 3' +3' 2 '*' 6 '*/'6)3'
@3/253' +3' 6 3;2)3* ' 4*3' '*' ' $' 2*?' +3(' 44E' + 33' :4 '
+3' *75@3 ' 4:' +3' ' '@39' @3/2793' +3' 64=3 ' 4:' 452'
6 364*?3 2 3?' 3*/3' +3' 2//47* ' '*' +3' 4)?' *2 2 ';3'
+2 ' +3' +' (' /7 '39' =3 3' 39 2@)'9+ ' '5 53?'2 3)(' 2: 3 '
+3' 7*'4*' 4:' +3' =4' 9 2 39' '9' *4 ' '*/4 3/)(' /4*/3';3?G
m*)(' ' ' 579 ' *4 ' @3' 3:3 3?' 94)3)(' 4' +3' 452*9' 4*'
+3' 2)2 '*3' 2*?' 4' +3' 2@'*39 ' +3' +' ?' '@3' =29'
:4 53?' @(' +3' 7/3 32$' 2) +47<+' +3(' =3 3' 7*?3 ' +3'
976 352/(' 4:' 453' 2*?' +3' ' 93*2 3' =29' *4 ' '*/4 64 2 3?'
'))' 2: 3 =2 ?G *4 ' =47)?' +3' ' @7 <+3 9' @3' 2?5' 3?' 4'
+3' /45' '75 ' +79' +3' '9+' 62)'253* ' '))' k ' =29'
?363*?3* ' 4*' =+2 ' +2?')4*<' @3:4 3' @3/453' +3' 7*' 3?'
62)'253* ' 4:' 32 ' ' 2'*

+3' < 2?72)' 3A 3*9'4*' 4:' +3' '<+ 9' 4:' /' 'H3*9+'6' 4'
+3' 93/4*?' 2*?' +3' +' ?' '@3' '9' 9/2 /3)(' 63 /36 '@)3' '*'
+3' +'9 4 '2*9' +2 ' 352'*' 3A/36 ' '*' +3' 2//47* 9' +4='
+3' *75@3 ' 4:' +3' 93*2 4 9' =29' 27<53* 3?G '*' +393' ' '
52(' +3' ?'9/3 *3?' *4 =' +9 2*?'*<' +3' ?'9/ 362*/'39' '*' +3'
?3 2')9 '))' 2< 33' '*' 52E'*<' +3' 93*2 3' /4*9'9 ' 2 ' :' 9 '
4:' 2' +7*? 3?' ';(' '9' +3' 4*)(' 4*3' =+4' 92(9' *4 +'*<'
4:' ' 9' 3*)2 <353* ' 2: 3 ' +3' 632/3' =' +' +3' 2@'*39G +3'
/4554*' 2?' '4*' '*' 2//4 ?2*/3' =' +' 2' /4 3/ ' ;'3=' 4:'
+3' 97@,3/ ' 3)2 39' +2 ' ' ' =29' ?47@)3?' ' :3=' = ' 3 9'
9 2 3?' +2 ' +3' *75@3 ' =29' 4*)(' 2'93?' 4' 2' +7*? 3?' 2*?

:': (! $ +393 /4*/3';3? +2 2)) +3 + 33 '@39 =3 3 36 393* 3? @(:': (26'3/3 29 '* +3 /47*/') 4: %';3 +7*? 3? 2 +3*9$ 2*? +2 @3:4 3 +3 :3?3 2 '4* =' + +3 2@'*39 +3 25*39 2*? 7/3 39 =3 3 94 @(+3 4 '<'*2) +7*? 3? '3 /4**3A'4* @3 =33* +'9 2//47* 2*? +3 4*3 +2 _ R7'*'79 '9/79 ?47@)3? +3 *75@3 4: 93*2 4 9 I 9+2)) 3A6)2'* '* +3 6 463 6)2/3 ' '9 97:' /'3* :4 +3 6 393* 4 2/E*4=)3?<3 +2 =+3* #'4 *(9'79 9 2 39 +3 93*2 3 4 +2;3 @33* 27<53* 3? @(2 R7'*'79 : 45 =4 4 + 33 +7*? 3? +'9 '9 52*':39)(+3 /4 3/ =2(4: 3A6 399'*< +3 2?5'99'4* 4: +3 +' ? '@3 =+3 329 '* +3 2//47* 4: +'9 +2;'*< :'))3? 76 +3 *75@3 @(2??'*< =4 +7*? 3?!V I ' '9 :4 <4 3* +2 +3 3)3;2 '4* 4: +3 2@'*39 6 3/3?3? +2 4: +3 7/3 39

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4 ?39/3*? @7 4 '93 =29 '56499'@)3'I- *' /47 93 4:' '53 +3 93;3 ' (' 4:' +393 '*9 ' 7 '4*9 3)2A39' 3A/36' =+3 3 2 ?';'*3)2=' '9 <';3*' 47' 4 @3 +3' ' 4 '<'*' 7* ')' +3 3 '9 2 /456)3 3 3R72)' (' 254*< +3 '@39 =+3*' 254*< +35 93);39')'E3 +3 "3*3 '2*' *4@')' (' +3(':4 5' 2 ?354/ 2/(' 2) +47<+' +3(' 52(' 7)3 4;3' 97@,3/ 9 +2' 47 *75@3' +35' 52*(' '539 4;3' //4 ?'*< B4 +3 6 '*/'6)3 4:' +'9 /4*9 ' 7 '4*' +3 +47939 2 3 /4*/3';3? 4 +2;3 3A '9 3? @3:4 3 +3 9 2 3' 2*? +3 9 2 3 4 +2;3 @33*' /45 6493? 47' 4:' +393 ' 9 3)353* 2 (' 62 9 *4' /2*' 2*(@4?(' @3)4*< 4 +3 9 2 3' 7*)399 +3 '9 2 535@3' 4:' 2 +4793? =+'/+' 7*?3' +3 '*9 ' 7 '4*' 4:' /29 39' /2*' 4*)(' @3 @(')3<' '52 3 ?39/3*' *' J 3' 5')?39' :4 5' 4:' 97/+' 2 <4 ;3 *53*' +3 2?5'99'4*' 4:' : 3353*' /4**3/ 3?=' +' +3 9 2 3 @(' 2 /4557*' (' S4:' *2 '4*2))2=' '9 2))4=3? 2*? +'9 52(' @3 3::3/ 3? @(' +3 394)7 '4*' 4:' 2 62 '/7)2' +4793 \' 4' 4:' +3 52,4 ' (' '*' 2 <3*3 2) 29935@)(' 4:' +3 +47939' 4' @z 532*9 4:' ?3:'*' 3 64=3 9 ;39 3? '*' 2 62 '/7)2' 535@3' 4:' 2 +4793' *' 94)' 2 (' '*9 2*/3J' ' '9 /4*/3';2@)3 +2' 3;3*' 2 =+4)3 +4793 52(' @3 '*/4 64 2 3?' +2' '9 4 92(' '*' +3 445 4:' 2*' 3A '*/' 4*3 !%4' +3 4 2)' *75@3' '9 :'A $ 2*?' '*' *4 =2(' /2*' ' @3 27<53* 3?

+3)4/2) '@39' =+3*' :' 9' 39 2@)'9+ ' 2 3 2?26 3? 4 +3 ?';'9'4*' 4:' 2 /47* (' '* 4 ?'9 '/ 9 2*?+25)3 9 94 +2' 3;3 (' 4*3' =+4 2' +3 '53 =+3*' 97/+' 2 ?';'9'4*' =29 52?3' 29 :4' '*9 2*/3 '*' +3 2<3 4:')'9 +3*39 '*' '/2' =29 93)3?'*' 2*(';'))2<3 29 ' 9 ?354 3' =29 3*C 4))3?'*' +3 6+()3 4 +3 3<'4*' 4:' =+'/+ +3' ;'))2<3

6' Q7 7 =7 7'" ' +?I' $?7 =+" =7 C + I' F$27' =7 C+I' '7 S7 $? =7 K$ 7 ?C7?' +" C+' "%%' &" =7 += + +" +?% =7' F ? 7" H7 $?K7% $ $?7 $' =7 $27' +' 7'

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4= '9 4)3 63 /3';3? 54 3 /)32)(' +2* 2*(@4?(' +29 3;3 ?4*3 9'*/3 +2 7*'4* '* 2 64)' '/2) 94/'3 (' '9 3993* '2) 4 +752* *2 7 3 2*? +2 ' '9 '56499'@)3 4 /4*/3';3 2 52* 2@4;3 2 53 3 2*'52) 3A/36 29 @4 * 2*?)';'*< '* 2 9 2 3 4 /47)? 2*(' 4*3 @3)399 '*/)'*3? 4 932 /+ 2: 3 '52<'*2 (' @3<'**'*<9 4: +'*<9 4 +2 29C 97 3?)(' +3 =29 *4 +'*E'*< +3 3 4: 2 6 '5' ';3 /4*?' '4* 4: +752*' (@7 4: 4*3 =+3 3 +3 94/'2) 7*'4* +2? @33* ?'994);3? =+3 3 +3 <3 5 4: ' +4=3;3 =29 9 ' 97@9'9 C '*< +3 6+')4946+3 9 4: +3 (/375 +2? 6 4@2@)(' +32 ? 2//47* 9 4: +3 93)353* 9 =+'/+ +2? 2 '93* =' +'* +3 5354 (' 4: 52* '* 63 :3/ : 33?45 254*< +3 +'))9 4: 6'C 79 4 4: I 4)'2C 2*? +3' 5 '9 2E3)2(' 4*)(' '*/4*:47*?C '*< +3 9(9 352 '/' '*9 ' 7 '4*9 3*2/ 3? @(')3<'9)2 4 9 =' + 97/+ 29 =3 3 +3 < 4= + 4: *2 7 3 +3 6 4 4 (639 =+'/+ 97<<39 3? +493 '*9 ' 7 '4*9 %4 +2? +3 3 *4 @33* +3 3A256)3 4: +47939 +2 +2? < 4=* 47 4: :25')'39 *4 4*3 =47)? +2;3 :4 53? 2*(' 29 +3 3)353* 9 4: 9 2 39C ,79 29 +3 /+2*<39 4: +3 544* +2;3)3? 4 +3 ?';'9'4* 4: +3 94)2 (32 '* 4 54* +9 =+'/+ *3;3 +3)399 @32 *4 3C :3 3*/3 4 +3 544*

* +493 +266'3 '539 =+3* +3 7 E'9+ 356' 3 =29 ;3 <'*< =' +47 2*(' +'*? 2*/3 4 ' 9 ?'994)7 '4* 2*? 7'* + 47<+ ' 9 4=* @2 @2 '95 2*? ='/E3?*399$ 2*? =+3* +3 + '9 '2*9 7*?3 ' ' 9 (4E3 =3 3 2E'*< 2?;2* 2<3 4: +3 < 4='*< 9)7<<'9+*399 262/' (2*? 9+4 9'<+ 3?C *399 4: +3' ' (2* 9' 4 :2(' +3 :47*?2 '4*9 4: : 33?45 :4 +3' ' 649 3 ' (=+'/+ 579 +2;3 @33* 2 2'*3? @7 +2 +3 52)'/3 4: :'3*?9 +29 /4*;3 3? +3 *4@)39 +4639 '* 4 +3 2<4*'39 4: ?3962' $Y '* +493 +266'3 '539 =+3* 57/+ +2 =29 < 32 2*? 3A/3))3* =29 97 ;';'*< +3 3 2*? +3 3 '* +2 7*:4 7*2 3 /47* (' 7*4@93 ;3? 2*? +79 39/263? @3'*< / 79+ 2*? ?39 4(3?$ 9453 @2*?9 4:

: 33B96' ' 3?' 53*' 3 ' 3?' : 45' ;2 '479' 62 9' 4:' 6' 79' 4' +3' 547* 2'*9' 4:' 7)'' +3 3' =29' :4 53?' +2' 634C 6)3' =+493' +3 4'95' 2*?' 5'9:4 7*39' +2;3')3:' +3' 39B' 93*'2*9' :2' @3+'*?' '' 2*?' +3' 3A 3 5'*2 '4*' 4:' =+'/+' + 47<+' +3' 2<3*/(' 4:' +3' % 2*E9' ='))' ? 2=' ?4=*' +3' /7 939' 4:' 649 3 ' (' 4*' 47' 2<3')4*<' 2: 3' 2))' +3' <7') ('+2;3' @33*' /2))3?' @3:4 3' +3',7?<353* B932' 4:' 4?' +3' 7)'4 9' /4*9'9 3?' 4:' 4*3' 2*?' +' (' +47939' 4' :)' +393' 94' :3' 29' =3' /2*' <2 +3' =3 3' 2/ 72))(' :25')'39' ?39/3*?3?' 32/+' : 45' 2' /45 54*' 9 4/E$' ;2 ('*<' '*' *75C @3 9' @7' 32/+' +2;'*<' 9' /26 2'*' =+4' =29' ' 9' ,7?<3' 2*?')32?3 G' +3' /26 2'*9' /4))3/ ';3)(' 52?3' 76' 2' 93*2 3' 4' /456)3 3' +3' '52<3' 4:' 2* 'R7' (' +'9' 6346)3' =29' +3' 94;3 2'*' 4;3' 2' /4*9'?3 2@)3' *75@3' 4:' ;'))2<39' +3' /4*9 ' 7 '4*' 4:' 52*(' 2')')3' 6346)3' '*' 2*/'3*' 33/3' 2*?' 2)(' 52(' 6 4@2@)(' +2;3' < 4=*' 76' '*' 2')'E3' 9'5C 6)3' 52**3' 4='*' 2*/'3*' '539' ':' 2' 6346)3' 4:' +'9' E'*?')3:' ' 9' +453' =' +' ' 9' 97@,3/' 63292* (' 2*?' =' +' 4 +3' /4562*'4*9' 2*?' 93)'*<' '*' 2' /4*R73 3?' /47* ('*/ 329' 94' 29' 4' @3/453' 2' *2 '4*' ' ' =47)?' *2 7 2))(' 9 3*< +3*' ' 93):' @(' :4 5'*<' 2' 7*'4*' @3 =33*' ' 9' 27A')'2C '39' 2*?' +3' 4 '<'*2)' +47939' 9+26'*<' ' 9' '*9 ' 7 '4*9' 2: 3' +3' 3A256)3' 93' @(' 32)'3' 9 2 39' +3*' 4*3' 4:' +393' 93*' 47' 2' /4)4*(' +3')32?3' 4:' ' ' 54?3))3?' +3' *3=' 634C 6)3' '*' /4*:4 5' (' 4' +3' '*9 ' 7 '4*9' 4:' +3' 9 2 3' =+'/+' =29' 3<2 ?3?' 29' ' 9' 54 +3 $' ?';'?'*<' ' ' '* 4' +3' 9253' *75C @3' 4:' 6+()39' 2*?' +393' '* 4' 29' 52*('6+ 2 '39' 2*?' $' 29' =3 3' :47*?' '*' +3' 62 3*' /' (' 2//4 ?'*<' 29' ' ' =29' 2

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  '9 7*':4 5)( )2'? ?4=* @(2)) +3 < 2552 '2*9 =+4 3A6)2'* +3 *2 7 3 4: +3 '/ <3**3 39 2*? 254*< +3 39 @(7)'79 4))7A Y =+4 ? 3= +'9 '*;2)72@)3 2//47* 9 4: +3 +3*'2* /4*9 ' 7 '4* 2*? +3 2) 3 2 '4*9 ' '5?3 B =3* : 45 +3 32 '93 764*!' '* '9 4)309 4`': !39 Y +2 =+3* +3 3 =3 3 :4'7G '@39 32/+ =29 ?';'?3? '* 4 + 33 6+ 2 '39 2*? +2 32/+ 6+ 2 (/456 '93? +' (+47939 +3 535@3 9 4: 2 +4793 4 <3*49 =+4 =3 3 /2))3? <3**3 39 4 rUA4(4 2A =3 3 *4 =2(2E'* @7 @4 3 +'9 *253 94)3)('* /4*93R73*/3 4: +3' 7*'4* ! +'9 =29 /353* 3? @(/4554* 3)'<'479 ' 39 '*+3 ' 3? : 45 +3' 2*/39 4 9 =+4 =3 3 ?'9 '@7 3? 2 +3 @3<'*C *'*< '* 4 +393 +47939\.

+ % / " $ 2 & + 5 =&'R ;<, $ 2 " *1 '" &R 0@ - $" (1 S D a % 2 aE& $ &(- * * *

9 $ 6 - A b (,D + F$ + $? (? +H&?%+? 7 $ F+''+K7 ? F$? + 7 7 7 7% $? H7 ?$ 7 $? 7'I = &' 1 (B $ =7'7 =+ 7 7? I H77? +%%7% + ' =$ &C $? =U = 7H&' F ! . % +?% + F+''+K7 ? =7 =7 $ + :7($? F&H '= ? T7LL7 ?7 % F) - 2= = F+''+K7 &' + = &'' =+% H7 $ 7 = C $C =7 2$ % b @ % 22 "G 2 % ? =7 + 7 F+''+K7 +?% =$'7 $ 7C$' =7?7 +K+ ?' &H& %7''F *#*- , 4 V11$ $; += 2 &C -* % 5 =7 + 7? '77C $ H7 7 I &? 7 + ?R 2$& % $ 7 =7 $ &F F+''+K7 (5] 9 T W ? =7 +2 $ $ $?

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4=' 3;3 , +'*<' *' +'9' 9 2 353* ' '9' 352 E2@)3' 2*?' 6 3<*2* $' +3' ?3 3 5'*2 3' 2*?' '*;2 '2@)3' *75@3 $' ' 9' 63/7)'2 ' /+2 2/ 3 $' +3' 3A6 399' /4* 2?'/ '4*' 4' +3' *4C '4*' 4:' 2' /45 54*' ?39/3* 39 I$ 2*?' +3' :2/ ' +2 ' +3' +3*'2*9' =3 3' ?'9 '@7 3?' 2 ' +3' @3<'**'*<' '* 4' +3' +47939

%4 ' *4' 4*3' +4=3;3 ' < 32 ' +'9' '*:)73*/3' 4 ' =32) +' =+4' +2?' *4 ' '*+3 ' 3?' +3' 3**4@)'*<' R72)' (' 4:' +'9' 4 'C <'*2)' /' 'H3*9+'6' : 45' +'9' 2*/39 4 9' /47)?' @3' 2?5' 3?' '* 4' 2' 6+ 2 (' 4 ' /4*93R73*)(' '* 4' 2' <3*49J!!' ' +' +3' '@39' 4:')'9 +3*39' *3' +3 ' +3' 6+ 2 '39' *4 ' +3' +47939' +2?' +3' 9)'<+ 39 ' /4**3A'4* ' +493' '@39' =3 3' ?';'?3?' '* 4' ?3539'G 2*?' +3' <3**3 39' 4:' +3' 9253' +4793' 5'<+ ' @3)4*<' 4' ?':.3 3* ' ?3539' I!' b %4 3'*3 9' 44 ' =+4' 4@ 2'*3?' +3' : 33?45' 4:' +3' /' (' =3 3' 3<'9 3 3?' '*' 2' 6+()3' 2*?' 2' ?353' @7 ' *4 ' '*' 2' 6+ 2 (' 4 ' 2' <3*49\\' 3*/3' 'C 9 46+2*39' 92(9' 54 3' +2*' 4*/3' 29' 2' 27* '*<' 54?3' 4:' ?39'<*2 '*<' *3=' /' 'H3*9' +2 ' +3(' +2;3' *4' 6+ 2 4 9' 4 ' 4*)(' @2 @2 479' 4*39

+3' *75@3 ' 4:' +3' 6+ 2 '39' @3'*<' =3);3' 2*?' +2 ' 4:' +3' +47939' + 33' +7*? 3?' 2*?' 9'A (' +3' < 2552 '2*9

*' 3' ? ' %7' $ 7K '' SL ' R' HI' 7+% ?K' X 1 5 ' ' & + 3' ' 7+' ' = '' + 7 + $?' '' 7+' 7 ' =+?' $?7 2= =' ?' $ =7 ' 7'F7 '' C K=' H7 '&FF$ 7% HI' 7N&+ I' K$$% K $&?%' ' (' 5 ' 5 ' (

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' ,1' 80' 08' -' ',1' -"41' "-' ', "' 06' "8' 0!:' ,. -' "8' +"-' 60.G 41.!*' 8' 5" 8

11' ',1' 8-'"8(1' 06' ',1' .*' :-/ 8' ',1' -511(,' "7" 8-" 1R."/ "4087-" ',0-1' 06' 140-',181-/ 5 ' N

;' 77' =7' %7 77' $? 7 ?K' =7' +? = '7' $?' =7' + Y+?' ' ?' =7' '+C7' 'F77 =' F' *#!.

$K' ' 3*-' B T %' '). ' ' $ C7 I' 7?'& 7% T+ =U UC I' $ ' +' '&C ?K' 2 =' =7' C$' ' 7(F 7' '' 7' C$? 7'' H7 $ 7' = '' 7I7' ' =+ ' 7+ =' $ ' =7' 7?' F=I 7'' $? + ?7% ? ?7 I' =$&'7" 5 ?+ =+ ' ' ' ' ,R B H&' =7' 2+" C ' 7% HI' + C+' &' ' 2=$'7' % ' '7 + $?' $?' = '' '&H47 ' 5 ?' = '' H'7 ' +% Z&' ' ' 7' $C+?' ' 3R' '' +' $CF 7 7' + & 7

=3 3 35'*?3?' 2*?' =' +' <44?' 3294*' 4:' +3'54* +9' 2*?' ?2(9' '*' +3' 94)2 ' (32 ' +3' :';3' :4 ' +3' 4??' ?2(9' /47)?' *4 ' @3' '* 4?7/3?' =' +47 ' 4//29'4*'*<' 2*' '*C 3R72)' (' =+'/+' =29' '*2?5'99'@)3 '

;3 (' +4793' @4 3' 2' 63/7)'2 ' *253' '*' :4 5' 3935@)'*<' 2' 62 4*(5'/'$ 29' +3' 4? '?9' +3' 754)6'?9' +3' 7 2?9'G =+'/+' <';39' '93' 4' 2*' 26632 2*/3' @7 ' 2' :2))2/'479' 4*3'5 4:' +3' ' +2;'*<' @3)4*<3?' 4' +3' 9253' :25')(' +393' *2539' 5'<+' @3' 2*9:3 3?' : 45' +3' 549' ?'9 '*<7'9+' 4:' +3' 2994/'2 3?' :25')'39' 4' +3' 39G' @7 ' ' '9' 54 3' 6 4@2@)3' +2 ' +3(' =3 3' 2?46 3?' : 45' +3' *253' 4:' 9453' +3 4' =+4' =29' +3' ' 3"/0;7UA4$' 7/+' 2' +4793' =29' +2 ' 4:' +3' 453 '?9' '*' +'49$' =+493' 9766493?' ?39/3*' : 45' +3' 643 ' =29' 4*)(' 2*' '*:3 3*/3' ? 2=*' : 45' +3' ' *253$' =+3 329' 4 +3 9' 6 4*47*/3?' +2 ' +3(' =3 3' *4' =2(' 3)2 3?' 4' +'5 l l!' +2 ' =3' 2E3' :4 ' 2' :25')(' '*' 33E' +'9 4 (' =29' 6 4@2@)(' '*' 52*(' /2939' 4*)(' 2' +4793' 4:' +'9' E'*?' 4 ' '9' +'9' 9(9 35' 4:' ?'9 '@7 '4*' 4' @3' /4*:'*3?' 4' +3' 4*'2*' '@39

4=' 29' 2' *75@3 ' 4:' +3' 33E9' @3)'3;3?' @4 +' '*' +3' ' 4=*' ?39/3*' 2*?' '*' +2 ' 4:' 4 +3 9' : 45' 2' +3 4'/' 6 4<3*' 4 $' 94' 2 ' 453' +3' 7)'" ?3?7/3?' +3' ' 4 '<'*' : 45')7)79' +3' 94*' 4:' ' *329' +3' %2@'" +3' 9' : 45' 2' 94*' 4:' 3 /7)39' +3' ' 2')''' +3' 9' : 45' 2' 94*' 4:' (C +2<4 29' +393' 62 '/7)2 ' 63?'< 339' ='))' *4 ' *4=' :'*?' 52*(' /+256'4*9' 7/+' 29' 2 3' 9 '))' 7*='))'*<' 4' 2@2*?4*' +3' 46'*'4*' +2 ' 2' +4793' =29' 2*' 2<< 3<2 3' 4:' :25')'39' 96 7*<' : 45' +3' 9253' 44 ' @7 ' =+'/+' :4 ' +3' 549' 62 ' =3 3' *4')4*<3 ' 2@)3' 4' 2/3' +3' ' 57C 72)' /4**3A'4*' 2 3' 54 3')'E3)(' 4' 2E3' 9+3) 3 ' 7*?3 ' +3' 27 +4 ' (' 4:' "2 s' =+4' '*' /4562 '*<' +3' 2::'*' '39' 4:' :25')'39' 2*?' 4:' =4 ?9' 2997539' +2' 2*' J5')'79' +2?' @33*' +3' 2*/39 4 ' 4:' 2))' +3' ' 5')''. ' 4=3;3

<[' + F$ + $?' ' E 4F + ' 7' C+l' +& l' +''&C7' =+ '+' =7 $' ?+C7% $C7 ' 2+" 7 7 7% Hl' =7 $? +?" + ' =7 C7' 2=7?' E = $" 7 7 7% " +2 ' ' 77' =7' = $ $K +' &'7&C' ' *),

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9'*/3 +3 '9 9632E'*< +3 3 53 3)(' @(' =2(' 4: '))79 2 '4* +3 =47)? 97 3)(' +'593): +2;3 ?36 3/2 3? 47 /4*9 7'*< 97/+ 2* 2))79'4* 29 ': ' =3 3 2 +'9 4 '/2) 2993 '4* *)'E3 52**3 +3 33E 54?3 4: 3A6 399'4* < 3=)2A 2*? /4*:47*?3? +3 64)' '/2) =' + +3 *2 7 2) 7*'4* I I0 +3 *4 '4* 4: 2 +4793 @3/253 4@94)3 3G @7 =+2 9 399 /2* @3)2'? 4* +'9 2: 3 +3 39 '54*'39 2??7/3? =+'/+ 2 ^ ?3 ';3? : 45 '9 4)3 2*? =+'/+ 94 9 7?'479)(' 46C 6493 +3593);39 4 97/+ 2 5'97*?3 9 2*?'*<L

3 /3 2'*)(' +2;3 *4 9'5')2 3A6 399 39 '54*(' 649'C ';3)(' ?3*('*< +3 3A'9 3*/3 4: 2 :25')(' 2::'*' (' 254*< +3 535@3 9 4: 2 452* <3*9 7 ': 2 3 5 =+'/+ =47)? +2;3 @33* 97::'/'3* @(' '93): '9 =2* '*< '* 2 ?3:'*' '4* 3963/'2))(' '* 4*3 =+'/+ B @3'*< @ 47<+ :4 C =2 ? 29 2 963/'53* 2'59 2 2@94)7 3 /456)3 3*399 p +2 3 5 '9 +3 3@(' 3A/)7?3? 2? '/3 4 @3)'3;3? +2 +3 535@3 9 4: 2 <3*9 =3 3 4: 2 /4554* 4 '<'* +3 =47)? +2;3 +2? *4 47@)3 '* <';'*< 2 ?3:'*' '4* 4: +35 9 ' '9 +3 92(9 *4 2 9())2@)3 4: +'9$ @7 ?3C 3 5'*39 +3 *4 '4* @(' 2 97//399'4* 4: 2 '@7 39 32/+ 4: =+'/+ 2??9 4 ' 9 6 3/'9'4*$ +3' @32 '*< 2 /4554*

5 *"''18' 08 +"- :."+8 '0' , - 5"--"71)* "!4"- 2-/) -1.@ ": 2- '' (/ 1" 04 5 KRR

2**6 %6 . +"- 0. 7 8"!!* -*808 .402- + ', 1 (' - -0 2-1:)* 1.0:0'2- $@ NC#/)* -"2-/ "8: (08' 82"!!*)* 08*- 2-/ "!',027, (2-'04/ +, (, 1@18 " ',18- +"- @". ")!1/ ,": :1(:1: !087)160.1 , - :"* 8 6"@02. 06 '- 41"8 87 3 8 ',1 -"41 +"* ' - 60.70''18' , " ',1 C1.4"8 +0.: " 081' 41 : : 80 41"8 3

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m A

+2 +3 535@3 9 4: 2 452* <3*9 +2? /4554* 92/ 3? ' 39 '9 =3))' E*4=*6 +393 =3 3 92/ ':'/39 260 64'* 3? :4 9 2 3? ?2(9 2*? 6)2/39. IZ +3 2'J" =3 3 7*?3 +3 4@)'<2 '4*' 4: 4::3 '*< 97/+' 4 '*3 ;2h$ +3 %2@'' ' 52(' @3 /4*,3/ 5 3?' 4 3 /7)39 4 2*/79. I$ +3 4 2 '" '*' 3A6'2 '4*' 4:' +3 : 2 '/'?3 /455' 3? @(' 4 2 '79 7/+' 92/ ':'/39 @3/253 @7 +3*9453' 29 +3 535@3 9 4:' +3 <3*9 =+4 =3 3)'2@)3 4 +35' ?3B / 329' '*' *75@3 6 2*? +3 ?3/ 3293 =29 '*3;' 2@)3' 3*/3 2))' 94 9 4:' 2 356 9 =3 3 52?3 4 <3 '? 4:' +3 @7 +3*' @(' 3A63?'3* 9 0J'/+' +3 2*/'3* ',7 '9 9 '*' ;2'*')2@47 3? 4 4@;'2 3' +3 6 4@)35' =29' 4 9+2E3 ' ' 4::' =' +47' <';'*< 76 +3 <3* ')3 3)2 '4*' 94 :2' 29 2*(' 2?;2* 2<3 2// 73? : 45'' 6 2*? 29 +3 /+2*<3 '*' +3 9 2 3 4:' :33)'*< '*' '/3 40 2<3 3*?3 3? +'9 :329'@)3' +3 3 59 4:' +'9 ?3:'*' '4*' ?'? *4' '*/)7?3' =+2' '*' '9 4)30 '53 =47)?' 4:' ' 93):' +2;3 @33*' 97::'/'3*' 2' 453 29 =3))' 29 2' +3*9

*?' 7*R739 '4*2@)(' +3 @3)4*<'*< 4 2 452*' <3*9' ':' ' +2?' ' 9 @7 +3*9')'E3='93 /4*:3 3?' 2?;2* 2<39' +3 '<+' 4:' 97//33?'*< 4 +3 6 463 (' 4:' 535@3 9 =+4 ?'3?' =' +47' E'*' 2*?' '* 39 2 3' =29 +2' =+'/+')29 3?' +3)4*<39 $ 94)4*<' '*?33?' 29 4 3*<2<3 +3 2 0 3* '4*' 4:' +3 ,5 '9 9' 2*?' 3;3* Y +47<+' 2997 3?)(' *4' 29 2*(+'*< 54 3 +2*' 2 +'9 4 '/2)' R739 '4* Y' +2' 4:' 2'*9' +3 52*79/ '6' 4:' =+493 =4 E '9 7*:4 7*2 3)(' '))3<'@)3 '*' +'9 62 ' +2' *4 '<+' 4:' +'9 E'*?' '9 ?'9/3 *'@)3 '*' +3 = ''*<9 4:' +3 +3*'2*' 4 2 4 9' 579' @3 4='*< 4 +3 /+2*<39 '*' 3;3 (' 94/'2)' 3)2 '4*

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1("2-1' ,1*' '."(1:' ,1 .' 0. 7 8 '0 1.(2!1-' ," ' ,1*' +1.1 ") 81-/ -114-' '0 60!!0+' 6.04' ,1 .' (,"51! 08' ,1' M2 . 8"!? (08-19218'!*' ,1*' 42-" ,"@1' .1@1.1:' 140 "8(2-? "8:' ") 2-' 4"*' 51.,"5-')1' ,1' 8"41' +, (,' ! 1-' , :' 28:1.' ,1' (0..25" .1": 87! a' ' 8 08*- 2-/ ' ' 11' 0!' ' 80'1'
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=+'/+ 2 +3*9 +7 '3? 4* :2 @3:4 3 +493 2 4 53$ +3 '?3 +3 3 +2;'*< 93 '* 4=2 ? ?354/ 2/(' 57/+ 32)'3 2*? 9 4*<3 >

%4 +3 9253 3294* =3 /2* 9 '))))399 3A63/ +2 +493 4 2 4 9 9+47)? 52E3 T53* '4* 4: +3 4@)'<2 '4* =+'/+ @47*? +3 <3**3 39 4 299'9 +3' '*?'<3* :3))4=9 '* @32 '*< 3A 24 ?'*2 (' @7 +3*9$ 2* 4@)'<2 '4* =+'/+ 2 453)2(' 4* +3 535@3 9 4: +3 +4793 29 =3))) 29 4* +3 /)'3* 9 l . . +'9 @4*? ?'? *4 47)';3 +3 '539 2*? 52**3 9 4: 3*'4 3 2* 'R7' (' ;3* '* 452* +'9C 4 (' =3 :'*? @7 2 9'*<)3 '*9 2*/3 4: ' $ =+3* +3 /)'3* 9 2*? <3* ')39 4: 25'))79 62(' +3 :'*3 4 =+'/+ +3 +2? @33* 93* 3*/3?! l 7@93R*3*)(' +3 /79 45 579 +2;3 @3/453 4@94)3 3 +3 <3* ')39 =3 3 /3 2'*)(' *4 /2))3? 764* 3A/36 =+3* +3 532*9 4: +3 /)'3* 9 =3 3 '*2BJ ?3R72 3G 2*? =+3* +3 3)2 '4*9 4: /)'3* 9+'6 3A 3*?3? 4;3 +3 =+4)3 4: 2)(' 2*? @3(4*? +3 3 =29 94 93)C ?45 4//29'4* 4 /2))' 4* +35 +2 +3 '<+ ' 93):' =29 :4 <4 3* &3 3;3* 94)2 3 29 +3 93/4*? 7*'/ =2 +3 <3* ')39 =2* 3? 4 2*945 +3' :3))4=9 =+4 =3 3 '* /26 ';' (' 2*? =3 3 :4 @'??3* 4 ?4 94 @(' +3 93*2 3Z +'9 4@)'<2 '4* '9 2* 3993* '2) /+2 2/ 3 '9 '/ 4:' 2 <3*9G 2*? +79)'3 62 3* 9 4:' '*/4 64 2 '4* '* 4 +3 +47939 4:' 52 9+' '* +3' 253*?3? :4 5 Y :4 2:C 3 +3 3:4 52 '4* +3 6 2/ '/3 4:' :4 /3? /4567 <2 '4*

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=29 2@4)'9+ 29 /4* 2 (4 /4*9/'3*/3 Y 9 ')) /4* 2'*9 2* 3*<2<353* 4 /453 :4 =2 ? 2*? 2'? +3 535@3 9 4: +3 +4793 4 +3 7 549 '* 2'9'*< ?'E39 4 ?=3))'*<9 ! 2*? 7*?3 B 3;3 (E'*? 4: ?'929 3 +3 3/'6 4/2) 3A3 C /'93 4: +'9 *4@)3 3)2 '4* /47)? *4 @7 3A/' 3 2 :33)'*< =+'/+)3? +35 4 3<2 ? 32/+ 4 +3)'E3 E'*? 3? 2*? @(?3< 339 2 @3)'3: +2 +3(=3 3 94 +'9 2997 3?)(=29 *4 2 94)' 2 ( )4/2) /79 45 @7 /4554* 4 +3 =+4)3 3 '*2* *2 '4*G 4*)(=+3 3 +3 3 52* '@39 ?=3) 29 /4*R73 4 9 ' @3/253 3A '*/ 52*(/3* 7 '39 32)'3 $ 2*? =29 3 2'*3? *4=+3 3 @7 '* 5(354 3 *2 ';3 6 4;'*/3 4: #' 52 9+ =+3 3 *4)4 ? 7)3? 2*? *4 9)2;3 93 ;3?G 2*? ': +3 /+ 4*'/)3 =+'/+ +29 6 3C 93 ;3? +3 62 3* +2? @33*)49 *4 2/3 4: ' =47)? +2;3 35253?

 9 'E'*< /4'*/'?3*/3 '* /+2 2/ 3 @3 =33* +3 /4 C 64 2 3 +47939 254*< +3 33E9 2*? '* 54?35 '539 '9 2::4 ?3? @(+3 :2/ +2 /4567 <2 4 9 793? 4 26632 2 752 '* 2'? 4: 535@3 9 4: +3' +4793 '9 4)3 53 3)(53* '4*9 +3' /45'*< :4 =2 ? 4+ +3 9'?3 4: +3 6 493/7 4 I!I$ 6 4@2@)(: 4*: ?335'*< @'9 2 9 ')) 54 3 @2 @2 479 /79 45 +2* +3 793 4: +3 9253 532*9 '*! @3+2): 4: +3 ?3:3*?2*

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5 7) '6)'3?' '* 4' 3*G' 2*?' + 33' +7*? 3?' 9 2*?9' '*' +3' 9253' 3)2 '4*' 4' +3' ?2(9' '*' +3' /(/)'/2)' (32 I .0J 29' +3' *75@3 ' 4:' +3' +3*'2*' +47939' 4' +493' 4:' +3' 94)2 ' (32 ' 4 34;3 ' ' ' /4 3964*?9' =' +' +3' + 33' +7*? 3?' :2 +3 9' '*' +3' 93*2 3' +3' 3294*' 44' =+(' +3' 93*2 4 9' '*' +3' /4)4*'39' 2*?' 6 4;'*/'2)' 4=*9' =3 -' /2))3?' ?3/7B' '4*9' =29' +2 ' +'9' =29' +3' *253' <';3*' 4' +3' /26 2'*' 2*?' @7 <399' 4:' 32/+' +4793 ' 3:4 3')'9 +3*39' 3*2/ 3?' +2 ' :': (' /47*93))4 9' 9+47)?' @3' 93* ' @(' 32/+' '@3' 3;3 (B' +3*'2*' <3*49' '*' +3' 9253' =2(' 579 ' ?47@)399' +2;3' +2?' ' 9' 36 393* 2J;3

+'9' *753 '/2)' 9/2)3' '9' 2*' ' 3:' 2<2@)3' 6 44:' +2 ' +3' 452*' +47939' =3 3' *4 ' 54 3' 2*/'3* ' +2*' +3' /4*9 ' 7C '4* ' @7 ' /4 64 2 '4*9' :4 53?' @(' 2')3<'9)2 4 ' '*' +2 54*(' =' +' +3' 39 ' 4:' ' 9' 9/+353 ' ' 9'5')2 ' /4*/)79'4*' 579 ' @3' ? 2=*' =' +' 3<2 ?' 4' +3' 3 52*' +47939 ' =+'/+' '*' +3' :'G33' /' '39' 2*?' 7 2)' /2* 4*9' 26632 ')'E3='93' '*' 3C <7)2 ' 47*?' *75@3 9' *' #' 52 9+' @3(4*?' ?47@ ' +3 3' =3 3' :4 53)(' +' (' +47939' ' 4)4<*3' +3 3' =3 3' + 33' /)29939 ' 32/+' /4* 2'*'*<' :': 33*G' +3' :' 9 ' =+'/+' 4 '<'*2))(' =29' '*' 3A/)79';3' 6499399'4*' 4:' +3' <4;3 *53* ' 3 5*3?' 2' 9763 '4 ' (' '*' 2*E' ' 4 3*/3' +3 3' =3 3' 93;3* (B =4' +47939$' 2*?' *4' 4*3' /2*' ?47@ ' +2 ' +393' =3 3' ?'9 '@7 3?' '*' 3R72)' *75@3 9' 254*<' +3' + 33' /)29939 ' +3')4 ?9 ' +3' E*'<+ 9 ' 2*?' +3' : 3353*' =+'/+' :4 53?' +3' '@39' 4:' @3' 94;3 2'*' 6346)3' '*' +3' 2)'2*' /' '39G' +3' /)29939' 2 ' 4)4<*3' 579 ' +2;3' @ 3*' 4:' 2' 9'5')2 ' *2 7 3' ' +2;3' *4' +39' 2 '4*' '*' @3)'3;'*<' +3' 2)'2*' 2?' '4*9' +2 ' +3' : 33?45' 4:' +3' ' /' '39' =29' :47*?3?' @(' +3' 3563 4 ' +4'G' 2*?' ' /4*/3';3' +2 ' +3' ?'?' ' ' @(' /4))3/ '*<' +3' 45@2 ?9 ' +3' % 2*E9 ' +3' 4 +3 ' 3 52*9 ' **?' @3' 2)'2*9' 2)94 ' '* 4' +47939 ' 2*?' @(' 52E'*<' +3'

' 8-'1":'06' /"-' N ' 8-'1":'06' N ' 11'")0@1/5' B' , -' +"-' 8718 02-!*' 5.0@1:')*' (8_1!4"88' 8' "' -,0." '.1"' -1'08',1' '4".-,' n ' +, (,' "551".1:' 8' BF / ',1'6 .-'/ 2*?, ',1.'0','1'08!*' 892 .*' 8'0' ',1' "8(18" (08-' '2' 08' "8:'!"+-' 06' 4*' 8"' @1' 5.0@ 8(1

J ':/9I.ð 7 +3 '*9 2*/3 ,79 53* '4*3?9+3=9@3C (4*? +3 32/+ 4:2?47@ +2 2!<3*9?'?*4 /4*9'9 4:62 '/'2*9 2)4*3 +3)27?'2* /4* 2'*3? +3 2 B /3))'$ =+4 =3 3 6)3@3'2*9 3R72) 4 +3 66'* '* +3 96)3*?47 4:+3 +4*47 9 +3(2 2'*3? @ 2*? '*/45628 2@:(54 3 793:7) 4 +3 /4554*=32) + 7/+ 6)3@3'2* :25')'39 579 3;'?3*)(+2;3 2 '93* : 45 52 '2<39 4:?'962 2<353* /4* 2/ 3?'@3:4 3 +3 3 =29 2*('<+ 4:'* 3 52 '2<3 @3 =33* +3 4 ?3 9 7 +3)27?'2* +4793 +2? 2)94 2 ;3 ()2 <3 *75@3 4:'*9'<*':'/2* 63 C 94*9 +2 @4 3 '9 *253$ 97/+ 29 +3 27?'79 =+4 ?'967 3? +3 : 33?45 4:"'<'*'2 2(2//4 ?'*< 4 2* 46'*'4* 4:32'0'3 '539 29 +3 ;3 (/293 '* '/3 4 6 4;39 ''/4* 2'*3? +3 : 33?53* 2*? +3' ?39/3*?2* 9 +79 254*< +3 23)9 +3 /)2* 4:+3 256@3))9 =29 :4 53? @(+3 *4@)39 2*? +3' ;2992)9C ':=3 266)(+3 452* 6+ 293 4 +35 +3 :4 53 +3 /)2* +3)2 3 4*)(@3)4*<3? 4'

+3 2993 '4* +2 +3 62 4*9 2*? J/)'3* 9 52?3 76 +3 4 <'*2) 452* 6346)3 '9 4*3 +3 ;2)'?' (4:=+'/+ '9 *4 4 @3 R739 '4*3?3A/36 =+3* ' '9 /2 '3? 44 :2 %2)93 29 ' '9 2*? ?39 7/ ';3 4:+'9 4 '/2) 7 + ':=3

H!1)1-: ('2.S"((0.: 87'0 "5 '0# 8 92"" (@2." :808 8-28'? C1!! 2-/ ; 160.1 ',1 (8 "8!"+/ I2-808 1."8 -1; '6 1.(c8-2!1-? ; @ 8-'1":'06 @* -"*- '06 ".92 ' 2-/ B3 '66 H 1-' 2-/ 3 06 "8! 2-/ @ @18 "4087',1 '"! "8 C.11D- 8 1".!*' 4i1-',1.1 -0 7.1"" 5.0)") ! '* ',"" ',1 '1.4- "8: +1.1 2-1:"- 192 @"!18'/',"+1 ".1 (1.'" 8!* 80 I2-'6 1: 8 "!'1. 87',1 '1;" 8 H0!*-182-/ F 3 +,1.1 +1 .1":',"" 1.0 8 , -+".7" 8-",1i '"! 2'-/ Lc(0 $ 3 I 2 1(* (08(!"'1:',14)*, - D 8:81--T ,"-(.)1 +02!:',"@1-2)-'2'1:',-+0.:60. I "-,"-)118 (08I1('2.1:'6 ,1 ..LO@40" ".1','1. (,'414)1.-06',1 (04408"!'*/+,0 : :80)1!087'0' ",02-1/)2 81@1.',1!1--+1.1 51.-08-06 86!218(1 8',1 .'(' 1-

Y ',1.1.151"4*"(D80+!1:71418'/"(,1. -,"41418'0'06',1 :1!7,'62!:"*- 08(1-518"+',"@78*/',"'4 8:1)'1:60.',- 0)-1.@"'08'0',4

?4 *4 2/E*4=)3?<3 +2 +3 6)3@3'2*9 =3 3 : 33 2*? 4;3)44E +3 *2 7 3 4: +3 /4 5 5 4*2) ($ *4)399 73 '9 ' ' ': 266)'3? 4 +3 63 '4? @3:4 3 +3 /4 5 5 4*2) (=29 :4 53? =+3* 2) +3 4 5 2*9 =3 3 /4 5 6 '93? '* +3 4 '<'*2) '@39 32/+ '* +'9 +4793 +3 2*? 54 +3 4: +3 :25')('* 3)2 '4* 4 +3' /+')? 3* 2*? ?4 5 3 9 '/9 2*? 2)94 4 +3' ?363*?3* 9 +3 /)'3* 9

4= +3 /)'3* 9+'6 2 493 ?439 *4 2?5' 4: @3'*< 29/3 97*3? +'9 4 '/2))(2*(54 3 +2* +3 4 '<'* 4: 4 5 3 #'4*(9'79 /4 5 6 2 39 +3 3)2 '4* 4 +2 4: +3 +3992)'2* @4*?53* +3 3*39 9 *4 +4=3;3 +2 +3 /4*/3';3? +35 @@ + 2)'E3 4 +2;3 4 '<'*2 3? '* /4*R739 '9 *4 '4* ?47@)399 =29 +2 4 5 7)79 9362 2 3? 0 +3 *4@)3 2*? '/+ 47 4: +3 +4792*?9 4: +'9 *3= /' 'H3*9 4 52E3 +35 62 '/'2*9 2*? /4*9'<*3? +3 /4 5 5 4* 6346)3 4 +3' 6 4 3/ '4* //4 ?'*< 4 +'9 /4*/36 '4* 4: +3 4 '<'* 4: 4 5 3 +3 /47)? *4 /2 (47 +2 /4 5 6 2 '94* =+'/+ '* 97@9 2*/3 '9 /3 2'*)(:47*?3? '* 7 + +3 92 5 3 3)2 '4* =+'/+ '*)'3992)(=29 7?3 2*? 3;4) '*< 5 '<+ 2 4 5 3 @3 5 4 3 3:'*3? 4='*< 4 2 ?'::3 3*/3 4: 52**3 9 2*? 4 2 @3 3 96' ' +3 /4*?' '4* 2*? 2?;2* 2<39 4: 2 =2 ?' =+4 +2? 6)2/3? +'5 93): 4: +'9 4=* 2//4 ? 7*?3 +3 6 4 3/ '4* 4:'2 62 4* @3'*< 2*9:3 3? 4 +3 93 : =2 ?9+'6 4: +'9 E'*? 3A'9 3? 2 5 4*< +3 33E9 '* +3 /293 4: 2 94,47 *3 =+4 29 @47*? 4 /+4493 2 /' 'H3*: 4 +'9 <72 ?'2* '* 4 ?3 +2 +3 5 '<+ *4 @3 2* 47)2=* +3<2 ? 4 +3 /45 54*39 /';') '<+ 9 (3 +3 /4*?' '4* 4: +3 3)4 9 2*? 3*39 9 *3;3 /+2*<3? ' 9 +2 3:7) /+2 2/ 3 +3 4 52*9 2*? +3 /' 'H3*9 4: 97/+ 4=*9 29 9 44? '* 2 :3?3 2) 3)2 '4* 4 4 5 3 =3 3 57 72))(3* ')3? 4 3A/+2*<3 +3'

,1 C1.4"8 +0.: 6.04 "8-+1.-1;"('!* '0 6.04

-.500."8X' "8-+1.-'0 ',1 C1.4"8 I ',1 I "-,1 +"-("!!1: 8',1 "' 8 06',1 4 ::!1871-

+453 :4 ' +3 4 +3 ' /' (' 63 +269 7*?3 ' +3 4@)'<2 '4* ' 2 ' 2)) 3;3* 9 =' + +3 '<+ ' 4:2 2/+'*< +3593);39 4 2 62 @*' +'9 '9 +3 532*'*< 4:' +3 E ' ' =+'/+ =3 :'*? /4**3/ 3?' =' + +3 E ' .5 2*(' 63 94*9 =+4 2;2')3? +3593);39 4:' +'9 '<+ ' 29 26632 9 : 45' +3 '*9 2*/39 4:' 2//793? 452*9' =3 3 / '5'*2)9' =+45' +3 9 2 3 +2? *4 ' @33*' 2@)3 4 2E3 '* 4 /79 4?(G 2*? +'9 6 2/ '/3 @3'*< ;'3=3?' =' + 2*' 3;')' 3(3 @(' +3 6)3@3'2*9' '*' +3' ' /4* 356' :4 ' +3 /)'3* 9' 2*? +3' '+2C 3?' 4:' +3 4 ?3 ' =+493 64=3 ' +3 /)'3* 9 76+3)?' +3*/3 /253 +3)3<3*?' 2@47 ' +3 29()75

*' 33/3 +'9 /4**3A'4*' 39 3?' 4*)(' 4*' 3/'6 4/2)' '* 3 39 ' 2*? 5'<+ ' @3 <';3*' 76 2*?' 2) 3 3?' 2 ' ='))' ' /329:' 29 944*' 29 +3 2)'3*' 4@ 2'*3?' +3 : 2*/+'93 4:' +3 /' (' 4 ' 3;3*' +3 6 ';')3<39 4:' '94 3)(' ' 453 ' ' =29)29 '*< '*' +3 /293 4:' +3 3 2 '2*9$ *2(' @3(4*? ?47@ ' ' =29 +3 3?' 2 (')'E3 ;2992)2<3 ' +2 ' ' /4554*)(' ?3C 9/3*?3?' : 45' 4*3 <3*3 2 '4*' 4 2*4 +3 ' #'4*(9'79 '9 2=2 3$ 4*)(' +3)44E9 4*' +'9 29 2 ;4)7* 2 (' 6 4)4*<2 '4* ' 49 ' 6 4@2@)(' +3 '9 5'9 2E3*'G :4 ' =' + 3<2 ? 4 4=*9 2*? /4557*' '39 +3 +3 3?' 2 (' /4* '*72*/3 4:' +3 /)'3* B 9+'6 '9 /3 2'*'G 2*? =+2 3;3 ' 52(' +2;3 @33*' +3 ?4/ '*3 '*' '/3 409 ?2(9 29 4 +3 3)2 '4*' @3 =33*' +3 ?39/3*?C 2* 9 4:' : 33?53*' 2*? +3 +4793 4:' +3' ' 4 '<'*2) 62 4* ' 9 '))' 3;3*' ':' +3 /)2'5 4:' +3 62 '/'2*')27?'" '*' +3 2@4;3B 53* '4*3? /293 =29 7* 3294*2@)3 ' +3 2?5'99'4*' 4:' : 33?C 53*' '* 4 +3 9367)/ 3 4:' 2 +4793 '9 2 6 44:' 29 ' +2;3 2) 32?(' +'* 3?' +2 ' +3 46'*'4*' =+'/+ 29/ '@3? +3 /+2C 2/ 3 ' 4:' <3* ')39 4 +35 ' 47<+ ' *4 ' 4 +2;3 @33*' 3B ,3/ 3? :' :' +'9 @3 94 ' +3 ?7 2 '4*' 4:' +'9 /4**3A'4*' @3'*< 7*)'5' 3?' =3 52(' '*:3 ' +3 9253 29 4 +3 /)'3* B 9+'6 '*' <3*3 2)' *' 7 +' +4=' 9+47)? +3 /)'3* 9 +2;3 4@ 2'*3? +3 *253 4:' +3 <3*9 ')'E3 +493 63 94*9 =+4 =3 3 3/3';3? '* 4 2 +4793 =' +47 ' @3'*< *2 ';39 4:' 2)(' 7*)399 +3(' +2? @33*' 2//47* 3? 535@3 9 4:' ' L' *?

A 0."5".1 (1.0/ :1 ."' ' F S BB#/ + ',' 5.0 "1(8"/ SF #/ " "S!00# #P 11 0!' '80'1' '

=+(' 9+47)?' +3(' +2;3' @33*' +3)?' 7*=4 +(' 4:' 97/+' 2*' +4*47 ' =+3*' 9)2;39' =+4' =3 3' 549)(' 2)'2*' 6 '94*3 9' 4:' =2 ' 9 44?' 4*' :25')'2 ' 3 59' =' +' +3' ' 529 3 ' "' 26632 9' : 45' +3' 2 7 *2)'2' 2*?' 2 3!2 ' +'9' 2@)3L

+493' /)'3* 9' =+4' ?'?'B*4 ' <2'*' +3' ')';3)'+44?' @(' 2?3' 2*?' +2?' 2/R7' 3?' *4' 6 463 (' 4:' +3' ' 4=*' 3C /3';3?' < 2* 9' : 45' +3' ' 62 4*9' 4:' @7')?'*<B< 47*?' 4*' +3' ' 39 2 39' 4<3 +3 ' =' +' =4' ,7<3 9' 4:' 2 2@)3')2*?$' *4 ' 29' 6 463 (' @7 ' 29' 2' 6 3/2 '479' 3*353* ' =+'/+' +3' 4=*3 ' 5'<+ ' 39753' ':' +3' :3) ' +'593):' '*,7 3?' 7 ' 2)) ' +4=3;3 ' ?'::3 3* ' '*' 2*E' 2*?' /4*93R73*/3' =3 3' 3* ')3?' 4' 62 3 *2)' 6 4 3/ '4*' : 45' +3' ' 62 4*' 3' =29' @47*?' 4' 3)'3;3' +3' ' ?'9 399' 4' 26632 ' :4 ' +35' '*' /47 ' 4' 3A647*?' +3')2=' 4' +35 ' /';')' 2*?' 64* ':'C /2)' *' +3' ' 62 ' +3' /)'3* 9' =3 3' 4' @3' +32 ')(' ?7 'C :7)' 2*?' 4@3?'3* ' 4' +3' ' 62 4*' 4' 6 454 3' +'9' +4*47 ' 4' 62(' +'9' 57)/ 9' 2*?' :'*39' 4' 2'?' +'5 ' ,4'*)(' =' +' +3' 535@3 9' 4:' +'9' +4793' '*' @32 '*<' @7 +3*9' :4 ' +3' /45J 54*=32) +' 2*?' ?3: 2('*<' +3' /+2 <39' 4:' 67@)'/' 4::'/39' 4' /4* '@7 3' 4=2 ?' 64 '4*'*<' +'9' ?27<+ 3 9' 2*?' 4' 2*945' +'5' 4 ' 2*(' 4:' +'9' :25')(' =+4' 5'<+ ' :2))' '* 4' +3' +2*?9' 4:' +3' 3*35(

+2 ' < 32 ' = ' 3 ')2/E9 4*3' =+4' 2/3?' +3' /79C 459' 2*?')2=9' 4:' 2*/'3*' ' '539' 3;3*' '*' +3' <2539' 4:' /+')? 3*' 52E39' 2*' 2))79'4*' 4' +393' @7 +3*9' 4:' +3' 452*' /)'3* 9+'6' =+3*' ?39/ '@'*<' +3' ?7 '39' 4:' ;2992)9' '*' +3' 5'??)3' 2<39 I I .

:' 2' /)'3* ' ?'3?' =' +47 ' +3' 9' +'9' 62 4*' '*+3 ' 3?' $ 2*?' +'9')2=' 3A 3*?3?' 4' +3' /293' 4:' : 33?53*$' +3' 64=3 ' 4:' +3' 62 4*' 4;3 ' =+45' 579' /3 2'*)(' +2;3' @33*' :47*?3?' 4 '<'*2))(' 4*' +3' <3*3 2)' 62 4*2)' '<+ 9

04418'". 1-/ 8 ' ' 5 ' N ' ,1' 612:"!' " :-' ": 4 ''1:' 06' 80' 1;145' 08' 8' ',.11' ("-1-3' 60.' ."8-04 87' ',1' !0.:' 02'' 06' ("5' @ '*3 60.' D8 7,' 87', -' 1!:1-'' -083' "8:' 60.' 50.' 08 87', -' 1!:1-'' :"27,'1.

U' 8' ', -'. 7,'/' ',1' 1; -'18(1' 06' +, (,' +"-' 6 .-'' 51.(1 @1:')*' 088"82-/ -11' %1 _/ 8' , -' H.16"(1' '0' 12500.'J-' !! '2-' 04"8/ 5 ' ;

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4=' ':' ' c*'79 =29 2@)3 4 67 ' +'9 : 33?52* 4 ?32 +' :4 ' :4 <3 '*< +3 3963/ ' ?73 4 +'9 +4793 2*? +'9 =29 ?33537 4 @3 ,79 ':'2@)3 29 =3))' 29 =+4)39453 93;3 ' ($ =3 52(' '*:3 ' +2 ' +3 62 4*' /47)? *4 ' 4*)(' 93* 3*/3 +'9 /)'3* ' 4)'<+ 3 ' 63*2) '39 ' =+3*' +3 +'593):' =29 2<< '3;3?' @7 ' +2 ' +3 2)94 92 ' '*' ,7?<353* ' 764*' +'5 ' =+3*' 2//793?' @(' 2 *3'<+@47

+3 3 =29 2 57 72)' @4*? @3 =33*' +3 62 4*' 2*? +3 /)'3* ' +2 ' *3' +3 ' 9+47)? @ '*< 2*' 2//792 '4*' 4 ' @32 ' =' *399 2<2'*9 ' +3 4 +3 ' 4 ' <';3 93* 3*/3 '*' /47 ' 2<2'*9 ' +'5 ' 4 ' '*' :2;47 '4:' +'9 3*35'39 +'9)44E9)'E3 2 5' '<2 3?' :4 5 4:' +3 4)?)2=' 4:' /4567 <2 '4*' +3 ?7 '39 4:' +3 62 4*' 4=2 ?' +'9 /)'3*' =3 3 54 3 92/ 3? +2*' +493 4=2 ?' +'9 4=*' E'*.Z' +43;3 ' 39629 ' 2<2'*9 ' +'9 /)'3* 9 ' =29 <7') (' 4:' 3294*' 2*?' ?3;4 3? 4 +3 '*:3 *2)' <4?9 ' +2 ' '9 4 92(' 47)2=3?' 94 +2 ' 2*(' 4*3 5'<+ ' E'))' +'5 =' +' '567*' (' ' '9 549 ' 6 4C @2@)3 +2 ' +3 64* '::' 29 +3 ;'/3<3 3* ' 4:' +32;3*' 4 =+'/+' +3 / (' 4:' +3 '*,7 3? 62 (' =29 2'93?' ?3;4 3? +3 +32? 4:' +3 4::3*?3 ' 4 @ '*< 2 /+2 <3 @3:4 3 2 /';')' '@7*2)' =29 '56499'@)3 6 97/+' 2*' '* 3 :3 3*/3 =47)? +2;3 63 ;3 3?' 2*?' ?39 4(3?' +3 =+4)3 3)2 '4*$ =+'/+' /47)?' *4 ' 3A'9 ' 2 ' 2))' =' +47 ' +3)'2@')' (' 4:' @3'*<'! 2@793?' +'9 2@793 +4=3;3 ' 579 ' +2;3 @33*' + 32 C 3*3?' =' +' :32':7)' 67*'9+53* ' %4 ' 4 '52<'*3 +2 ' +3 62 '/'2*9 ' =+4 '*' +3' ' ?32)'*<9 =' +' +3 6)3@3'2*9 *3'C +3 ' 3963/ 3?' 3R7' (' *4 ' /4562/ 9 2 ':'3?' @(' 42 +9 ' 9+47)?' +2;3 @33*')3?' @(' 4@)'<2 '4*9 =+'/+' =3 3 53 3C)(' /4*9/'3* '479 ' 4 32 ' +3' ' /)'3* 9 =' +' 2' 62 3 *2)' E'*?*399 ' 97/+' 29 52*(' :2 +3 9 ?4 *4 ' 9+3=' 4 +3' ' 4=*' /+')? 3*' =47)?' @3 2 9'))(' ? 325' 4:' 2 <4)?3*' 2<3 ' =+'/+' *3;3 ' 3A'9 3?' +3(' =3 3 *4 @3 3 ' +2*' +3 E*'<+ 9 4:' +3.' 5'??)3 2<39 ' =+493 ;' 739 +2;3 @33*

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Y' C1!! 2-/ ' ' LL ' ' ,1' (!"-- ("!' 5"--"71' 08' ', 1' 5"'.08-, 5' -' ', 1' +1!! D80+8 081' 8 08*- 2-/ 8 ' F/

3A 4))3?$ @(' '<*4 2*/3$ 2*?$:2)93+44?$ +3($ =+4$ 2 3$ /+2 <3?$ @($ 2$ 3963/ 2@)3$ /4* 3564 2 ($ =' +$ 4@@'*<$ +3$ 94//2<3 $ 4:$ +'9$ 97@9 2*/3 $ 29$ +47<+$ +3$ =3 3$ 2$ @4*?B$ 52* $ @3/2793$ +3($ /47)?$?4$ ' $ =' +$ '567*' ($ 9'*/3$ 4?$ =29$ +3$ 4*)($,7?<3$ @3 =33*$ +35 $ 2*?$ +3$ 644 $ 9$ ':$ +3($ 47<+ $ *4 $ 4$ +2;3$ 32 3?$ +3$ @4*?52*$ 2)94$ =' +$ E'*?*399K

54*<$ +3$ 6 ';')3<39$ =+'/+$ +3$ 25*39$ 2 3$ 92'?$ 4$ +2;3$ /)2'53?$ 4$ +3$ 3A/)79'4* $ 4:$ +3$ 4 +3 $ 62 '?2*9 $ 2//4 ?'*<$ 4$ 2$ *2 2 ';3$ =+'/+$ 2997 3?)($ 36 393* 9$ +3' $ 3)2 '4*$ 4$ +3$ 7/3 39 $ 4*3$ =29$ +2 $ 4:$ 3/3';'*<9 2*<3 9$ 29$ /)'3* 9 l [l$ ')$)399$ +3*$ =47)?$ +3($ 2))4=$ +'9$ '<+ $ 4$ +3$ 6)3@3'2*9 $ &3 $ =+3*$?'9 '*<7'9+ $ 53*$ 493$ 76$ '*$ +3$,2 3 $ 4 ?3 $ =+4$ /47)?$ 2::4 ?$ 6 4 3/ '4*$ 2*?$ 3? 399 $ 2*?$ < 2* $ 6)4 9$ 4:$ < 47*?$ 4$ @3$ +3)?$ 2 $ =')) $ /)'3* 9$ 2 B$ 2/+ $ +3593);39$ 4$ +393$ 29$ =3))$ 29$ 4$ +3$ 62 '/'2*9 $ * ')$ +3$ 6)3@3'2*9$ @+ 2'*3?$ 2$ 9+2 3$ '*$ +3$ /4*97)9+'6 $ 2*?$ '*$ +3$ 797: 7/ $ 4:$ +3$?455*9 $: 33$:4 3'63 9 $=' +$:3=$ 3A/36 '4*9 $ 579 $ +2;3$ 266)'3?$ 4$ +3$:' 9 $ 4 ?3 $ '*$ =+'/+$ +4=3;3 $ +3 3$ 52($ +2;3$ @33*$ 52*($ 63 94*9$ =' +$ 9/2 /3)($ 2$ 9'*<)3$ 3)'3* 6 2*?$ 94$)4*<$ - $ 2*?$ - $ =3 3$ /43A 3*9';3$ 3 59

3 +269$ +3($ =3 3$ 2)94$ 9(*4*(5479 :4 $ +3$ *4 '4*$ +2 $ +3$ $ =3 3$ 94$ /2))3?$: 45$ +3' $ 62 3 *2)$ /2 3$ '*$ 299'<*'*<$ 6)4 9$ 4:$ 2 2@)3$)2*?$ 4$ +3$ 644 $ 29$ ':$ +3($ +2?$ @33*$ +3' $ 4=*$ /+')? 3*$ Il$ '9$ R7' 3$ '*$ 2//4 ?$ =' +$ +3$ 96' ' $ 4:$ 2*/'3* $ '539$ 2) +47<+$ 63 +269$ 3;3*$)''9$ 3A6)2*2 '4*$ '9$ 44$ 2 ':'/'2)$ +3$ *253$ 52($ 6499'@)($ +2;3$ @33*$ 4*)($ 2$ 9'56)3$ ')3$ 4:$ +4*47 $ 793?$ '*$ 2?? 399C '*<$ +3$ 2*/'3* $ /' 'H3*9 $ =+3 +3 $ '*$ +3$ 93*2 3$ 4 $ +3$ 29935@)($ 4:$ +3$ /7 '39 l0$ $ '9$ @($ *4$ 532*9$ /4*:'*3?$ 4

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U$ H"'.1-$-18"'0.1-$:(0$ "551!!"' $ -28'/ 92 '" "7.0.24' 5".'1-$ 2' $ '.)21)"8" '182 0.)2-/ 51. 8:1$ "0$!)1. -$ 5.05. -$ 1-' $ 5 ' $ (24 $:1'1:$)*' ,1$,1!5$ 06$ ' ,1$ 6."7418'

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:)7/ 72 3 '* +3' 6 2/ '/3 2 3 9 '))= 2)=2(9 '*/)'*3 4 '* 3 6 3 +3' 27 +4 ' '39 '* +3 *2 4=3

7)'79 2392 2*? 7<79 79 2'93?/3 2'* :25')'39 4 +3 62 '/'2 3$ @3/2793 94 52*(4: +3 +47939 +2? @3C /453 3A '*/ 4 +2? @33* 53 <3? 254*< +3)4=3 4 ?3 9 : 45 +3' 64;3 (4 +2? ;4)7* 2 ')(629 4;3 4 +3 /4554*2) (+2 +3 3 =3 3 *4)4*<3 63 94*9 3*47<+ 4 :'))= +3 6 '39)(4::'/39 2//4 ?'*< 4 2*/'3* 792<3 4=' +3 :': (:25')'39 =+'/+ =3 3 +3* 9))' 352'*'*<I I . =3 3 /3 2'*)(2* 4)? *4@')' (''J 3;3 (3963/ 6 2*? 9'*/3 +493 7)3 9 5'A +35' 76 =' + +3 549 '))79 '479 :25')'39 254*< +3 6)3@3'2* *4@)399 Z 4 + #'4*(9'79 2*? ';(=3 3 +3 3@(6 362 3? 4 /4*9'?3 +3 62 '/'2 3 29 2 *4C @')' (: 45 +3 :' 9 =4 /3* 7 '39 32)'3 5/'79 =+493 =3'<+ 29 2* 27 +4 ' (;3 2) 32?(*4 '/3? +2? /453 4 2 4 2))(?'::3 3* /4*/)79'4*$ *253)(+2 2*/'3*)(2))' : 33@4 * /' 'H3*9 =!3 3 /2))3? 62 '/'2*9 I. +'9 '9 4 @3 3:3 3? 4 +3 '53 2* 3 '4 4 +3 '93 4: +3 6)3@9C 3;3* +3* +4=3;3 +3 *75@3 4: : 33@4 * 53* 254*< +3 /)'3* 9 579 +2;3 @33* /4*9'?3 2@)3 +2 '9 9 '/)(2//7 2 3 '* +3 /4562 '94* 9335 9 4 @3 Y 2*? 63 +269 ' =29 94 3A6 39 @('*/'79 =+493 532*'*< =3 +2;3 4 /4))3/ : 45 +3 2@ '?<353* 4: 2* 2@ '?<353* Y +2 +3 62 '/'2*9 4: 4)? 9 44? '* +3 9253 3)2 '4* 4 +3 39 4: +3 452*9 +3' /)'3* 9 29 +3 '@39 4: +3 + ?'? '* +'9 ?2(9 4 +493 4: +3 #)' +3(=3 3 +3 73 /' 'H3*9$,79 29 '* 3 52*(3;3* '* +3)'' B 33* + /3* 7 (2 535@3 4: 2 +4793 2*? 2 @7 <+3 =3 3 3R7';2)3* 3 596 2*? 94 =3 *33? *4 +2;3 2*(9/ 76)39 3A/' 3? '* 79 @(+3 =2* 4: 2 /)299 4 4//76(2 5'??)3 9 2 '4* @3 =33* +35 2*? +3' ?363*?3* 9 4 2 3 =3 4 +39' 2 3 2 :'*?'*< +2 +3 3 =3 3 + 33 +7*? 3? +47939

ÀÀÀ 08*- 2-/

1-' 5 ' @ H"'. (0- "':01-80"60!!0+6.04 ', -5"--"71 ', "" 8(2-4 -'00D ',1 8"'2.1 06 ',1 '1.4 8"' 08/ "8:6"8(1: ,1 -"+ 0 8 '

=+'/+ =47)? @3 2*' '*/ 3?'@)3 *75@3 ' :4 ' +3 *4@' (' 4:' 2 952)) 9 2 3 *4 ' '9 ' ' 2*(' 4@,3/ '4*' 4 +'9 *75@3 ' +2 ' +3 62 '/'2*' <3* ')3 *2539 =+'/+ =3 533 =' +' +2 ' '9 ' '*' +3 %29 ' ' 2 3 ;3 (' 57/+ :3=3 ' %4 ' 3;3*' 976649'*<' =+2 ' 579 ' +2;3 @33*' :2 ' : 45' +3 7 +' +2 ' =+3*' +3 2 R7'*9 =3 3 @2*'9+ ' +3 /456)353* ' 4:' +3 @47939 =29 :7))' +3 /4*97)2 3 =29 7*R739 '4*2@)(' 463*' @7 ' 4 2 952))' 64 '4*' 4:' +35 ' 2) +47<+ 3;3 (' 4*3 =29 3)'<'@)3 4 ' ' *' 2))' 2 '9 4/ 2/'39 2 :3=' :25')'39 2)4*3 2 3 '))79 '479 2*? 64=3 :7) 2*' '*/4562 2@)(J < 32 3 ' *75@3 ' /4* '*73 *33?(' 2*? 4@9/7 3 ' 4 ' @3/453 94 97/+ =29 +3 /293 2 " 3*'/3 ' +3)2 3 ' ?'3 4:' 7*4@93 ;3?$ 4 ' +3(')493 +3593);39 254*< +3 /4554*' 6346)3 ')'E3 +3 *4@')' (' '*' #' 52 9+ 2*? 4 =2(' 453 4:' +3 452*' :25')'39 2)94 3*47*/3? +3' ' 62 '/'2 3 4:' +3' ' 4=*' 2//4 ?' 2*? =3* ' 4;3 ' 4 +3 6)3@9 IZ ' *' 4 +3 ' /2939 +3 9253 3::3/ ' :4))4=3? : 45' 52 '2<39 4:' ?'962 2<353* ' @3:4 3 +3 '<+ ' 4:' '* 3 52 '2<3 @3 =33*' +3 =4 4 ?3 9 =29 39 2@)'9+ ' @(' +3 2*7)3'2*')2=' 54*< +3 62 '/'2*' +47939 4:' +'9 E'*?' =+'/+ *3;3 ' 4//7 ' '*' +3 %29 ' ' 2 3 +3 <3*9 2/')'2 2*? 2 R7' '20 94 2 3 +3 "' 3 '" 2*? 9'*/3 +3!*2539 4:' +3 4)?3 ' 6)3@3'2*' '@39 3935@)3)'3 <3* ')3 *2539 '*' :4 5 ' 2*? '*' 93;3 2) '*9 2*/39 2 3 /45 54*' 4 +35' =' + 62 '/'2*' +47939 ' ' '9 3A/33?'*<)(' 6 4 @2@)3 +2 ' +3 3 =29 2 <3*9 25'))2 ')73* '2 ' 2)3 '2 ' 354*'2 ' 76'*'2 ' "4) '*'2J0

, -' +"-' ',1' ' ' # + ',' .17".:' '0 +, (,' " -' '.21' ',"' 8 !"'1.' ' 41-' "' 824)1.' 06 6")!1-' +1.1' 8@18'1:')* 5!1)1 "8 @"8 '*3 "8:' "((0.: 87!*' ', -' 42-" (1.'" 8!*')1' ',1' . 7," .1": 87/ 8-'1":' 06 "' ' 8 (1.0/ .2' ' N ,1' 8-'"8(1' 06 ' 82(2-' -' 7 @18')* @*/ '@ N/ "8:')* H! 8*/ ;@ 4 '

U ,1' 7.1"' 8(88"'2-' +"-' 4".. 1:' '0 "' $"(! "')160.1' ',1' "82!1 "8 !"+'3 ' ".92 ' 2-' +"-' 4"-'1.' 06 ',1' ,0.-1' :2. 87 , -' : ('"'0.-, 5

' ,1' 1-'"! @ .7 8-' 8 "8(18" ' 41-' +1.1' 5"'. ("8-' 80 !1--' (1.'" 8!*' ',"8' ,1' 5. 1-'-' 2" ',1' 8"41-' "-(.)1:' '0 ',0-1' +,0 ".1

3963/'2))(' 4' 5')' 2 ('93 ;'/3' 9+47)?' @3' 6 464 '4*3?' 4' +3' *75@3 ' *4 ' 4:' +3' =+4)3' /4557*' (' @7 ' 4:' +3' /4 64 2C '4*' +3' @3)4*<3?' 4 ' +79' 3;3 (' 6 3/27 '4*' =29' 2E3*' 4' 6 3;3* ' +3' 54@0@' 7 *'*<' +3' 9/2)3C' 2*?' +3' 54 3' *753 479' 2' 52*0@' /4 64 2 '4*' =29' '*' /4562 '94*' =' +' +3' 39 ' +3')'<+ 3 ' =3 3' +'9' @7 +3*9' 2*?' +3')399' '5C 64 2* ' +'9' ;4 3 ' +3' 9253' 6 '*/'6)3.' 6 3;2')3?' '*' +3' /4*9 ' 7 '4*9' 4:' +3' 5'??)3' 2<39' :4'5?3?' 4*' +47939' 2*?' <7')?9 ' 4=' '*' +3' 32)'39 ' '539' 4:' 453' +3' R739 '4*' =29 ' =+3 +3 ' +3' '@39' 4 ' +3' /7 '39' =3 3' 4' @3' +3' 7*' 9 ' '*' 2E'*<' +3' ;4 39' 4:' +3' =+4)3' @4?(' 7 ' ':' +3' '@39' +2?' ?'::3 3?' '*' 46'*'4* ' P=+3*' 4*)(' =4' 4:' +35' 649939 ' +3' '<+ ' 4:' ;4 '*<' +3(' =47)?' +2;3' 9 44?' '*' ?' 3/ ' 46649' '4*' 4' 32/+' 4 +3 ' '*' 2' 52**3 ' ?2*<3 479' 4' +3' 67@)'/' 632/3C 2*?' 2: 3 ' +3' +' ?' 4 ?3 ' =29' 2??3?' 4' +35 ' ' ' =47)?' +2;3' :3) ' ' 93):' 6)2/3?' 4*' 2*' '*:3 '4 ' :44 '*<' +2?' @4 +' +3' +'<+3 ' 4 ?3 9' <';3*' +3' ' ;4 39' 2<2'*9 ' ' ' +3*' +3' R739 '4*' =29' 4' ?4' 2=2(' 2* 'C R72 3?' @7 ' 9 '))' @7 +3*9453' 6 ';')3<39 ' +3' +' ?' /)299' 5'<+ ' @3' 7*2*'5479' '*' ' 9' ?3 3 5'*2 '4*$ 2*?' :47 ' 3* +9.' '*' 32/+' 4:' +3' :' 9 ' =4' '@39' 5'<+ ' 2< 33' =' +' ' G' 2)' =47)?' @3' '*' ;2'* ' +'9' =29' 4@;'2 3?' @(' 2E'*<' +3' ;4 39' 2//4 ?'*<' 4' /7 '39C 2*?' +3' 353?(' =29' /456)3 3' =+3*' +393' =3 3' *4')4*<3 ' /2))3?' 76' '*' 2' 9 2 3?' 4 ?3 ' 94' +2 ' +3' 52,4 ' +47939' 9+47)?' 2E3' 6 3/3?3*/3' 4:' +3' 7/3 39 ' @7 ' '*' 4*3' 93)3?' @(')4 ' +'9' +4=3;3 ' =29' 6 4@2@)(' 2')2 3 ' '**4;2 '4*

4=' 29' +3 3' '9' *4' ?47@' +2 ' +3' :25')'39' 96 7*<' : 45' 52 '2<39' 4:' ?'962 2<353* ' 2*?' +3' /)'3* 9 ' 9+2 3?' '*' +3' 92/ 3?' ' 39' 4:' +3' /7 '39!...$ 4*3' 5'<+ ' +'*E' '

' I6' ' -2550-1' ', "'/ "4087' ', 1' 4"8*' 5"'. ("8' ,02-1-' +, (,')1("41' 1;' 8('/ ', 1.1' +"-' "' 718-' (.)08 "/ 06' +, (,' 08!*' "' 5!1)1 "8' 6"4 !*' .14" 81:/ ")1(041-' !1--' -2.5. - 87' ', "'/ +,18' ', 1' 5!1)1 "8' 80) ! '*' ,":' 6".' 02'-'. 5"' ', 1' 5"'. ("8/ "8:' "' 7.1"' 4"8*' 5!1)1 "8-/ 6.04' ("2-1-' +, (,' + !!')1' 1;5!" 81:' 62.', 1.' 08/ ,":')118' ": 4 ''1:' '0' "' -,".1' 8' ', 1' .1! 7 02-' +0.-, 5' 06' ', 1' (2. 1-/ "' (.)08 2-' +"-' 4":1' ' $

6 4@2@)3 +2 @4 + +493 /)29939 =47)?)'E3='93 2E3 62 =' + +3 62 '/'2*9 '* +3' /45' '2 +3 *4 '4* +2 :4 3'*3 9 =3 3 2?5' 3? 4 +3 : 2*/+'93 4: +3 /7 '39 '* +3 9253 =2(' 29 +3(' =3 3 2: 3 =2 ? 4 +2 4: +3 /3* 7 '39 ?439 *4 *4=*33? 4 @3 3:7 3?

+3** =3 /4*9'?3 +3 6 '*/'6)3 4: +3 '*9 ' 7 '4* ' ' '9 9/2 /3)(' /4*/3';2@)3 +2 +3 ;4 39 2E3** '* +3 /7 '39 9+47)? +2;3 @33** +493 4: +3 '*?';'?72) 535@3 9 *4 +493 4: +3 +47939 =+'/+ =3 3 +3' /45 64*3* 7*' 9 2*? +2 +3)2 3 =29 +3 =2(' 4:;4 '*<' 9335 9 4 +4 3A6 399)(' 2 39 3? @(' 2** 2*/'3* 27 +4 I.I : +'9 =29 94 ' ' 52(' +2;3 @33** *32)(' '* '::3 3* 4 +3 62 '/'2*9 4** +3 =+4)3 94)4*< 29 +3 4)? 9 2 3'!4: +'*<9 /4* 'C *73? 97@9 2* '2))(' +3 9253 =+3 +3 +3 '*:3 '4 535C @3 9 4: +3' ' +47939 ;4 3? =' + +35 4 *4 G :4 +3 /+3* 9 =3 3 *4 2)'@3 (' 4 ;4 3 2<2'*9 +3' 62 4*9 3*/3 +3 4*)(' 3::3/ =47)? +2;3 @33* +2 '** 32/+ <3*9 53** 4: '*:)73*/3 =47)? +2;3 3A3 /'93? 2 6 364*B ?3 2*/3 6 464 '4*2 3 4 +3 *75@3 4: +3' /)'3* 9 J;3 +493 =+4 /47)? /4*:3 *4 6 4 3/ '4** %25')'39 96 '*<'*< : 45 52 '2<39 4: ?'962 2<353* /2** 4*)(' '93 6 @(' ?3< 339

7 +47<+' ' =47)? *4 +2;3 @33** ' 3/4*/')2@)3 =' + +3 '* 3 39 9 4: +3 4 ?3 4 2?5' ' 97/+ ;4 39 *?3 97/+ /' /7592*/39 ' ' =47)? +2;3 @33** ?'2530 '/2))(' 466493? 4 +3 96' ' 4:2** 2 '9 4/ 2/(' %4 +'9 9 =29 +3 /293 2 " 3*'/3 3R7' 39 2** 3R72)' (' =' +'** 9 4=** @4?(' @3 =33** +3 644 39 2*?? +3 '/+39 *4@)3 2*?? 2** 2@94)7 3 '*3R72)' (' @3 =33** 3;3 (' *4@)3 2*?? 3;3 (' 6)3@3'2* 4 97/+ 2 @4?(' ' 5 79 +2;3 @33** =4 93 +2** 4::3*9';3 +2?? +3 ;4 3 4: 2 R7' '79 4)? :4 *4 54 3

R! 2- 1! ;/ 920'1:)** C1!! 2-/ ;@ B 24 1;0 L, $, -266."7 28.61."'2./ (2. "'"" (24 ' "" 1--1 1.1 '00 0 , - 92 @"!18" '0 0 .' -11 80'1 B " :01- 82" 4 "''1.'"-'0' , 1 4" 8 50 8'/ ', "" < , 42-" (1.'" 8!**)1 "" +.087 +0.:'? ', 1 4 -'"D1 '00 - 081 60.' +, (,' C1!! 2- ("8 ,".:!**)1 "8-+1.")!1'? , - '1;" - K'!! 8 +"8" 06"8 ")!1 (. ' (

+2*' +2 ' 4:' 2' /)'3* ' 7*?3 ' 4*3' 4:' +'9' '/+' <3* ')39 ' *?' +3' 2@4;353* '4*3?' 976649' '4*' @3/4539' 7 3)(' '*2?C 5 '99'@)3 ' =+3*' =3' /4*9'?3 ' +3' /+2*<39' +2 ' '53' 579 ' *33?9' +2;3' 52?3 ' +3' 3A256)3B' 4:' 2))' 2<39' 2*?' /47* '39' 32/+39' 79 ' +2 ' 94')4*<' 29' 67 ' (' 4:')'*32<3' =29' '*9'9 3?' 764* ' +3!' 62 '/'2*' :25')'39' '*' +3' +47939' 579 ' +2;3' @33*' 26'?)(' ?33 329'*<' :' +3' *3=)(' '93*' 6)3@3'2*' :25'C)'39' 2*?' +3' /)'3* 9' +2?' ;4 3?' '*' 2' +4793 ' +3(' =47)?' +2;3' 3 2'*3?' ' 9' ;4 3 ' 3;3*' =+3*' +3 3' =29' *4 ' 2' 9'*<)3' 62C '/'2*' 4' @3' :47*?' '*' ' G' 2*?' 254*<' +3' + 33' +7*? 3?' 52*(' 579 ' +2;3' @33*' 3?7/3?' 4' +'9' 9 2 3' '*' 2' :3=' <3*3 2 '4*9 I J0 G 94' +2 ' +3' 62 '/'2*9' =47)?' +2;3' @33*' 7*2@)3' 4' 52'* 2'*' +3' ' 6 364*?3 2*/3' 3;3*' '*' +3' ' 4=*' /45' '2 ' '))' 54 3' 7*:2;4 2@)3' 4' +35' =47)?' +2;3' @33*' +3' 397) ' 4:' ;4 '*<' '*' +3' /7 '39' @(' 64))

+3' +47939' '*' +3' ' 64)' '/2)' /+2 2/ 3 ' @3'*<' 3993*C '2))(' 62 '/'2*' ' +3' ?3:'*' '4*' 4:' 93)'79' ,79 ' 3:3 3?' 4' +47<+' ' ' 52(' *4 ' @3' 2*' 2@94)7 3' 6 44:' +2 ' *4*3' @7 ' 62 '/'2*9' 26632 3?' '*' +3' /45' '2' 4:' +3' /7 '39 ' /3 2'*)(' 39 2@)'9+39' +3' /4 3/ *399' 4:' +3' 46'*'4* ' +2 ' +3(' :4 53?' +3' 52'*' 62 ' 4:' +493' 29935@)'39 ' 4 34;3 ' 2' :7 +3 ' 9 2 353* ' 4:' +3' 9253' 93)'79' :47*?3?' 4*' 2@34 ' 3)2 3?' +2 ' +3' /45' '2' 4:' +3' /7 '39' =3 3' /4*;4E3?' @(' 2')'/ 4 ' +493' 4:' +3' /3* '7'39' @(' 2' +45+)4=3 ' . .$ =+')3' #'4*(9'79' 92(9' +2 ' +3' 62 '/'2*9' =3 3' 9754 54*3?' @(' *253' @(' 2' 53993*<3 ' +3' 6346)3' @(' +3' @)4='*<' 4:' 2' +4 *' '79

, "*' ', -/ +02!:' 28"@0 :")!*')1' ',1' ("-1/ P+!!)1' (!1".' '0' 1@1.*' 081' "(92" 8'1:' + ',' ',1' , -'0.*' 06' ',1' 5.0@ 8("!' 80) ! '*/ + ,1.1@1.' 5.006-' 06' 51: 7.11' ".1' .192 .1:

Y' 8' C1!! 2-/ ;@' B?' 2. "!"' (04 ' "' 51.' ! ('0.14' (2. "'24' ("!". / :' 1-" (08@0(". H' (18'2. "'"' 51.' (0.8 (814 ' ,2-' 6".' '! 1' !"'"1.' "-' +1!!' "-' ',1' 60. 41.' +1.1' - ' (08@0D1:? "8:' "-' "' 5"'. ("8' ")-0!@1:' , 4-11' 6.04' , -' 718-')*' ',1' - - - ' , ' "8:' : -G 50-1:' 06' , -' 5.051.'*')*' +%!' 8' ',1' 5.1-18(1' 06' ',1' 5052!2-/ -0' '" 5!1)1 "8' : :' ',1' -"41')160.1' ',1' -, ' 2" ',1' "((028" 7 @18')*' C1!! 2-' -' (0862-1:

UJU 08*- 2-/ 2 ' ?' ' ' (' ' '

=3 :'*7 +2 2@34 2*7 #'4*(9'79 2< 33 7*3R7';4/2))(''*
?39'<*2 '*< +3 /7 '39 29 +3 29935@)(4: +3 62 '/'2*9
+3 9253 '?3* ' (26632 9 4* /4562 '*< ';(0 2//47*
+2 2 R7'*'79 '94*9 299'<*37 6)2/39 :4 932 9 47*7
+3 /' /79 4 +3 2*7 +3 E*'<+ 9 =' + +2 4:
#'4*(9'79 =+4 92(9 +3 299'<*37 +35 4 +3 /7 '39
 *4 ?3 +4=3;3 4 <';3 2 /456)3 3 2*7 ?3/'9';3
6 44: 4: +'9 '564 2* 6 4649' '4* =''))+3 3 2* '/'62 3
2 46'/ +3 6 463 6)2/3 :4 =+'/+)'39 9453=+2 :7 +3
4* =+3 3 9+2))@3 4@)'<37 4 3/7 4'
 +3 549 ''564 2* 6'3/3 4:''*:4 52 '4*4* +3 452*
/4*9 ' 7 '4* /4* 2'*37 '* +3 *3=)(?'9/4;3 37 : 2<53* 9
4: '/3 409 @44E9 4* +3 367@)'/ '9 +2 2: 3 +3 E'*<9
+27 @33** 3)3/ 37 @(+3 /7 '39 +3(+27 9 '))4 266)(
4 +3 9253 /7 '39 :4 +3 +3 3:''92)4:=+'/+
47)7 +2;3 ;4'?37 +3' 3)3/ '4* '/3 4+27 +3 532*9
4:E*4='*< +'9: 45 +3 @44E9 4: +3 64* '::9 2*7 27<7 96
2*7 3A 24 ?'*2 (29' 52(947*? +2 +3 9253 29935@)(
+27 4 ?3/'?3 ='/3 4;3 2*7 /47)7 2**7)'' 9 4=*3)3/ '4*
@(+3 93/4*7 ?3/'9'4* +3 ?'9 '*/)(2993 9 +2 97/+ =29
+3 /293 4 =29 +3 2993 '4* 9763 :)7479 3;3*' '* +'9
'53 :4 #'4*(9'79 2*7 ';(@4 + 29975 3 +2 +3 29935
@)'39 579 +2;3 @33* =4 ?'::3 3* 4*39 29 =29 +3 /293
2: 3 +3 '53 4: 3 ;'79 7))'79 +3 3)3/ '*< 29935@)(

& -9 @ 3 J "& & - 9 C % fD E2
F7&$A[%#1 -E % " -' % * D% % [[-' " - $ - & "
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+ 7 7 F *#? 5Q&C+R N&+CN&+C F$F&& & + 7&C
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7K7C & E*) & &C $' &C F$F&& 7K C $C & +
7+ 'N&7 %7 CF7 $ '&$ \ F$F&&C $?'&& & + C *!
7(+ F$F&$ 7' ? & + & $?' & &' %7CN&7 %7 CF7 $
&$ 7K7C & + +C & .! 7(7' 7+ 7 : + N&?&' \ 'N&7
 %7 '&$ CF7 $ 7K7C &] '$ $ 7 & A&'! * F$F&M
&C %7 '7 F'$ $?'&& 7K7C %7 CF7 $ '&$ & + +C &

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'9 2E3*' @(' @4 +' 4' @3' +3' 6346)3'6 +3' /4*:' 52 ';3' 4*3' '9' /2))3?' @(' +3' :4 53 ' +3' 62 '/'2*9 ' @(' +3')2 3 ' +3')' (' +'9' 3 5' +3' 6 4@2@)(.532* ' +3' 93*2 3$' =+'/+' =29' *3/3992 ')(' 2' 62 (' 4' 3;3 (' ?3/ 33' 4:' +3' /7 '39'6 +47<+' 6499'@)(' '*' +'9' 6)2/3' 2)94' +3' 52(' +2;3' +2?' +3' 62 '/'2*9' '*' ;'3=' 2 ')329 ' '*?'9 '*/)(' 29' +3' +28J'3)93=+3 3' 54 3' : 3R73*)(' +2*' 97/+' 2' 93*93' '9' 29B' 9/ '@3?' 4' +'5 ' ' 2)' 3;3* 9' 3;3 (' 32?3 ' ='))' 933 ' =' +C 47 ' *33?' 4:' 52*(' =4 ?9' 4' 6 4;3' ' ' +2 ' =+2 ' '/3 4' /2))9' +3' ' ' ' ' '9' 6 3/'93)(' +3' 9253' +'*<' 29' +3' ' ' '*' ';(' 2*?' +3' /4*:' 52C '4*' @(' +3' 62 '/'2*9' '*' #'4*(9'79 *?' +79' ' ' '9' *4=' :7 +3 ' /)32 ' +2 ' +3' ' ' =+'/+' ')' +3' 6299'*<' 4:' +3' c*'2*')2=' =29' '*C ?'963*92@)3' 4' +3' ;2)'?' (' 4:' 3)3/ '4*9 ' =29' *4 +'*<' 3)93' +2*' +3' ' ' ' ' =+'/+' 3;3*' +3' ?'/ 2 4 9' 3 3' :4 /3?' 4' 4@ 2'*' ' 7 ' +493' =3 3' +3' 62 'C /'2*9'$ +3(' 2 3' /2))3?' 94' 549 ' ?'9 '*/)('J\' '9 4 (

$?I' &'' ' , .' ' D ' E" ' ' ' $ ' % ' : I ' ' *)'B %7 7 7 &? ' & ' &C' F$F& &" 7K7C' 4&'' ''7 % ' ' + &C' 7''7 ' '' F+ 7" +& $ 7" 7 7? ' ?' = " $ C' Q&C+ " 7 7 $?' " $?%& 7%' B' & &C' \ ' 7K7C' F$'R& &" 4&'' ' F+ 7" +& $ 7" + ' # 'B ? &C' + &C' 7K7C' F$F& &" 7+ ' F+ 7" &7 &? '+& $ 7'' 3*' ' 7 &" ?4&''&' F$F& ' $ & + 7 F+ &C' 7K' ?+

<' : I ' '3 ' 2=7?' : ' 7(&" 2+" 7 7 7% $?'&'B ?7' " N& ' %7C' ? " 7 +C ?&C' & ' O& +' . ' '7 . . ' & & $" ?7K+' H+? ' F $F7 '7 7'' $?7C' F 7H ' \ 7" 7? ' 7 ' + &' ' ?' =7 'F77 =' $ ' ' : ? " + 7 ' F' -) B > +' +' N&$ \ H7 +' +H' . L . ' . ' '& +K +' C+4$ 7" 7' ' F+ + 7 7' 7 7' + &' ' C&' ' 7 M + ? I' =+ 7 H77? C+L ?K' &'7 $ ' +' 'F77 =' + &+ I' CF'7% HI' =7 7+ ?7% +? N&+ I' + 7 ' $?I' &" 2 7" 2 =' 7K+ % $ +' +?'M + $?' '&H' +? + I' =7 '+C7' ?' $?7 F + 7' ' - .' ' 2+ F $$' '1 ' 5 ' @' $1(' b ' \ ' ?' +?$ =7 L ' 3' ' /6F+ F+' > T > 'B $' 2= =' ' '=+ ' +% 7 +K+ ?' 2=7?' ' $C7 $' =7 ?' & $?' $ ' =7 H&?7" $ ' =7 F7$F 7 B '77 ?$ 7 *#,#' 7 7 27 =' +' K CF'7 $ ' '$C7 $C+?' 2 7 ' ' 2$& % 2+K7 ' $ ' 7 '+C7 + 7 'B $ ' $?I' &" = C '7 ' =+% ?$ 72' ?' = ' +HI ? =' ' 7 F+ +?" $$' ?' =7 ' 7' ' '7?'7 ' '

/2**4‘ 9766)(‘ 2‘ 54 3‘ /4*/)79';3‘ 6 44:‘ :4‘ +3‘ '?3* ' (‘ @3 =33*‘ +3‘ /45' '2‘ 4:‘ +3‘ /7 '39‘ 2*?‘ +3‘ 29935@)(‘ 4:‘ +3‘ 62 '/'2*9

'+%‘?‘ =7‘ 7 +C+ $?‘F $ C‘*35#!R‘ =+ ‘ '=$&%‘ =7I‘H7 $C7‘ 7(? ‘ =7‘ 7F&H ‘ 2$&%H7‘ ?‘ 2+?‘$‘ +C7?'‘ + ‘ +?%‘'$‘$?‘ +?%‘$‘ =7‘ ‘ 7 7‘ =7‘ =+ ?$ C7%‘ =7 $ +?‘H7 +I‘‘ = C'7 ‘ 7‘ =+%‘F $H+H I‘ 7+%‘ =7‘F+''+K7‘‘4&'‘ N&$ 7%‘ $C‘ 7 $‘‘H$$L‘‘$?‘ =7‘ 7F&H ‘ 5'77‘?$ 7‘!3)R‘B +?%‘=7‘%%‘?$‘ 7 7 ‘ =+‘ ?‘ 7 $‘‘ %+I‘‘ =7 7‘ 27 7‘?$‘$ =7‘ & + 7‘ $C +‘ =+?‘ =7‘ C7 7‘ $ C+‘+''7CH 7‘‘ $‘ $? C ?K‘7 7 $?'

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/4* 3564 2 '39 4: 25'))79 +47<+ +3(' +2? 2 :' 5 @3)'3: '* +3)3<3*?9 2@47 457)79 =47)? +2;3)27<+ 2 2*(' 4*3 =+4)'E3 +3 549 '*),3))'<3* 53** + 33 /3* 7 '39 2: 3 +2? 36 393* 3? +3 '*9 ' 7C '4** 4: +3 93*2 3 29 2 64)' '/ 53297 3 352*2 '*< : 45 +3 : 33 =')) 4: +3 :47*?3 4: +3 /' (*' 2)) +3 /' '39 @3)4*<'*< 4 B/';')'H3? *2 '4*9 4** +3 /429 9 4: +3 3?' 3 2*32** 2 93*2 3 =29 *4)399 3993* '2)) 2*? '*?'963*92@)3 2 62 4: +3 9 2 3 +2** 2 6467)2 29935C @)(G ' =29 2 93)3/ @4?(' 4: +3 3)?3 /' 'H3*9 7/+ 2 /47*/') 92(9 '9 4)3 '9 :47*? 3;3 (=+3 3 =+3 +3 +3 /4*9 ' 7 '4** @3 2 '9 4/ 2 '/2) 4 ?354/ 2 '/2)G 3;3** '** 4)'<2 /+'39 +4=3;3 :3=' +3 9+2 3 9 '** +3 94;3 2'* (' /3 2'** /47*93))4 9 2 3 2664'* 3? :4 6 362 '*< !67@)'/ 53297 39

+2 +3 452** 93*2 3)'E3 +3 +3*'2** 4*3 39 2B @)'9+ @(')'9 +3*39 /4 3964*?3? 4 +3 '@39 +29 2) 32?(' @33** 3A6)2'*3?' 7 =3 52(' <4 :7 +3 2*? 2::' 5 =' +47 +39' 2 '4** +2 4 '<'*2))(' =+3** +3 *75C @3 4:+47939 =29 /456)3 3 +3(' =3 3 36 393* 3?'553C ?'2 3)(' @(' +3 93*2 3 +3 *75@3 4: =+'/+ =29 6 4C 64 '4*2 3 4 +3' 9' +3 + 33 +7*? 3? 93*2 4 9 2*C 9=3 3? 4 +3 + 33 +7*? 3? +47939 =+'/+ =29 2997 53? 2@4;3 4** <44? < 47*?9 4 @3 +3 *75@3 4: +35 2/+ <3*9 93* ' ' 9 ?3/7 'O* =+4 =29 ' 9 2)?3 52** 2*? +3 6 39'?3* 4:' 9 @(B533 '*<9 4 36 393* ' ' '** +3 93*2 3

FVJ#$&1$ ' $ 7 $ ' ' *`

'3' 62 2*' $ ' =3 3' 3'<+' 2*7' =3* (' 2' 9'*<7)2 ' *75@3 6' @7' 9'*/3' @3' =4' E'*<9' 52?3' 76' +' (' '' 52(' @3' 3A6)2'*3?' 2//4 ?'*<' 4' +3' 9253' +(64 +39'9' +3 3' =3 3' +' (' +47939' 36 393* 3?Z!' +3' <'2?9' 2*?' 7 (64* '?9' @(' +3' E'*<96' +393' *2539' =+3*' +3' ?3C 9/3* !' 4:' +3' =4' +47939' : 45' ='*9' +2?' @3/453' 2*' 2 '/)3' 4:' 6467)2' @3)'3:' =3 3' ?3 ';3?' : 45' /3 2'*' 2)C)3<3?' ?39/3*?2* 9' 4:' +493' 5 (+'/2)' @ 4 +3 9Z

+2' +3' 93*2 3' 9+47)?' @3' 2664'* 3?' @(' +3' E'*<9' 2' +3'' ?'9/ 3 '4*' /2*' *3;3' +2;3' @33*' +3' 4 '<'*2)' '*9 'C 7 '4*' ;3*' #'4*(9'79' 97664939' +2' +3 3' =29' 2*' 3)3/ '4*' '9' *4 '4*' 4:' '' +4=3;3' '9' R7' 3' 7* 3*2@)36 +3' ?367 '39' 579' +2;3' @33*'Z0/+493*' 2')329' 4 '<'*2))('' @(' +3' +47939' *4' @(' +3'/7 '39

+3' 93*2 3' =29' ?';'?3?' '* 4' ?3/7 '396 32/+' 4:' +393' /4 3964*?3?' 4' 2' /7 (' +3*' +3' 9 2 3' =29' =' +47

=7'7' = I' '7?+$ '' $ 7'F$?%7% $' =7' ?&CH7'$'%+I'' ?' +' C$? =' ?' =7' $C+?' ?&CH7'$' = 77' =&?% 7% =7 7' '' +' 7 7 M 7? 7' $' =7'%+I'' ?' =7' 7?' C$? ='' $' =7' I '17+' ?' =+'$' =7' '=$&'7'' $' =$'7' ?' =7' '$+' 17+' $' 27 7' C$? ='B '77' ?$ 7' B' =7' ?&CH7'' ?' =7' 50!''("!' 8-''2'08-'06'"8'92 '*' 27 7' ?7 7'+ H + IB 2=7? 27' ?% +?' &?&'&+' $?7' 27' + 7' 2 =' 7+'$?' & $&'' $' C+L7' $&' '' C7+? ?K' '' '' $C'+' L7' 7 7 7? 7' =+' '' 2$& % 7aF+?' =7' ' ?K& +' ?&CH7'$' =7' $&? '$' ?7' &?% 7% +?% $&' +' + =+K7'5 ' $ 7' $ ' ' R' = '' '' 2 7' =7' ?&CH7'$' =7' 277L'' ?' +' 17+' & =' +' % ' H& $?' $' C7' 2=$ I' ?%7F7?%7?' $' =7' 7 7H + $?' $' =7' '+HH+ =' 2$& % '77C' $' =+ 7' H77?' CC?' $' =7' =7? +?'' 2 =' =7 ' ?7 K=H$& ''+?% $' =+ 7' H77?' =7' H+' '' $'+' F$ +'% ' $?'+'' =7' C$? ='' 27 7' +C$?K' =7' P 77L'' +?% $C+?'' ?' ?$?+ $?' '' '& =' /'' =7C7' C$ 7' F $H+H 7' =+?' ?' =+' 2= =' + '7% + + '' $' =7' "7+' +?% =7' $? =' +?% F+ % % ?7' =$?$& '' $' =7C' +'' $' $ =7' +H' + $?'' = '' '' 7M + 7% $' =7' ?=+H +? '' $' P+%7'' HI' &' + = &'' $?' $?I' &'' 7 7' K7 7'' ' 3`#' $C' +?

;' =7' 2$' $I+' =$&'7'' 27 7' ?$' N& 7' 7N&+B ' M ' ;=4 334 :6R' '+I'' 7 $%$ &'' ;'' `*' $' 7C+ + &'6 +?% F7 =+F'' =7' H7''$' =$&'7'' ?7 7' 27 7'$+' '' =7' = 77' K 7' $I+' =$&'7'' ?' CI = +'' $ I \ =+'$' ?+(+K$ +''$'T +'' +?% $' CI' =+$? \ 27 7' ? 7? 7% ?' $ %7' =+' ?' L7' C+??7' =7I' C K=' ' +?% $' =7' = 77' H7'

' R

X

2 E'*< 3* 93*2 4 9 6 39'?3? 4;3 ' ' ?7 '*< +3 '* 3 B 3'<* ' +3 54?3 4: 6 4/33?'*< 4* 97/+ 4//29'4*9 '9 2*4 +3 ' 64'* ' 29 4 =+'/+ +3 2//47* 9 '* 47 ')''9 4 '2*9 2 3 /4* 2?'/ 4 (6 2*? *4 =4*?3 $:4 ' *4 97/+ 52<'0 9 2 3 +2? +3* 3A'9 3? =' +'* +3)29 ' + 33 /3* 7 '39 I .0 //4 ?'*< 4 ';(' =+3* +3 3 =3 3 @7 ' 2 +7*? 3? 93*2 4 9 4*3 =29 *45'*2 3? : 45 32/+ ?3/7 (' +393 4<3 +3 ' :4 53? 2 @42 ? 4: 3* ' 32/+ 4: =+45 3*,4(3? +3 3<2) 64=3 ' 2*? ' 9 @2?<39 29 '* 3 3A :4 ' :';3 ?2(90 ':* *4 E'*< =29 / 32 3? 2 ' +3 3A6' 2 '4* 4: :': (?2(9 ' +3 4 2 '4* @3<2* 2*3= ' #'4*(9'79 4* +3 4 +3 ' +2*? 9 2 39 ' +2 ' +3 =4 +7*? 3? ' 4: =+45 +3 93*2 3 =29 /45 6493? 2 ' +3 ?32 + 4: 457)79 ' =3 3 ?';'?3? '* 4 =3* (?3/7 '39 ' 2*? +2 ' 4*3 4: +393 =29 /+493* @( )4 ' 29 +3 '* 3 3<2) @42 ?$ 2*? ' =+3* +3' ' '53 +2? 3A6' 3? ' 2*4 +3 ')7 2 /+ :'*2))(' 2E'*< +3 *75@3 ' 4: 93*2 4 9 2 ' 2 +7*? 3? 2*? :': (' 92(9 *4C +'*< 4: 2*(?3/7 '39 ' @7 ' 3)2 39 +2 ' +3 4(2) 64=!3 ' =3* ' 47*? : 45 +3 :' 9 ' 4! +3)29 ' 94 29 *4 ' 4 352'* 54 3 +2* +2): 2 ?2(' 2*? +2): 2 *'<+ ' =' + 32/+6 2*? +3* ' ': +3 6346)3 9 ')) /4* '*73? =' +47 ' 2 E'*< +3 4 2 '4* /45 53*/3? 2*3= I . ' +'9)29 ' 2/C /47* ' :2))9 =' + +3 +4))4= @29'9 4* =+'/+ ' ' 39 9 ' +3 *75@3 ' +3 299'<*9 4 +3 93*2 3C 2*? #'4*(9'79 =29 +'*E'*< 4: +3 '/ 6 (2*'39 ' 2*? 299753? +2 ' 2)) +3 93*2 4 9 579 ' +2;3 9 44? 4* 2* 3R72)' (' * 'A!(09 9 2 353* ' +3 3 '9 2 3:3 3*/3 4 +3 9763 '4 ' (' 4: +3 25*39$ 2*? =3 :'*? +3 ' ' +3 3* ' 32/+ 4: =+45 =29.. +3 :' 9 ' '* +'9 ?3/7 (' I.6 =3 *33? *4 ' +39' 2 3 4 ?3/'?3 '* ' 9 :2;47

=7 7 2+' ' $ H7 '& 7 +? ? 7 7 K? ? =7 I7+ ' k ' ' H& ' + ' F $ 77% ?K" + ' =+ ' C7 27 7 + H + I' +?% +2 7' '

Z : ' ' k ' $?I ' &' ' ' k ' & + = ' Q&C+ ' / '

; ' =7 7(F 7' ' $? $ ' $?I ' &' ' ' 1+6$ $ ' ' %2 ' &A$ ' $ ' '=72" =+ ' =7 $&?% =7 F= +'7 , ' ' =7 ??+ ' ' ? 7' "=7 =+% C7+? ' $?% + 7 = ' ' =7 2$& % =+ 7 2 M 7? 0 - ' % % ' 8 % '

+3 93*2 3 Y 94)4*< 29 +3 '<+ 4: 3)3/ '4*= =29 3A3 /'93? @(' 4*3 '@3 2)4*3 +3 ?3/7 '39 4: +2 '@3 Y 2< 33? 254*< +3593);39 4* +3 63 94*= 4 @3 6 4C 6493? @(' +3 '* 3 3A 4 +3 /7 '39=+493 64=3 =29 /4*:'*3? 4 2//36 '*< 4 3,3/ '*< +'5 =29 2 + 29 '*= +3 /293 4: 2)2=$ +3*/3 +3 '* 3 3A 9 92'? 4 67 +'9 2//36 2*/3 4 +3 ;4 3 +'9 '9 +3 =2(' +3 / 32 '4*= 4: 752 2*? */79 '9 3)2 3? 9 4 3 ;'79 7))'79 +3 '9 92'? 4 +2;3 797 6 +3 + 4*3 =' +47 2 6 3;'479 3)3/ '4*= @(' +3 93*2 3IJ : 3 =2 ? +3 9253 9(9 35 /4* '*73? :4 2 /4*9'?3 2@)3 '53 '*= +3 /4*97)2 3)3/ '4*96 2*? 94 ?'? +3 793 4: +3 =4 ?)

+3*= +3 E'*< +2? @33*= 2//36 3? +'9 '*27<7 2 '4*= 44E 6)2/3 '*= 4 ?3 4 <';3 +'5 +3 '553?'2 3 92*/ '4*= 4: +3 <4?96 2*? +3 3 52(' 63 +269 +2;3 @33*= 2 '53 4: +4*39 / 3?7)' (' =+3*= 2?;3 93 27<7 '39 =47)? +2;3 @33*= 2 < 47*? :4 6 4/33?'*< 4 2 *3=5 3)3/ '4* ;3*= +'9 +4=3;3 =29 *4 97:) /'3* 4 <';3 +3 *3=5 E'*< +3 :7)) 64=3 +3)5 =29 *3/3992 (' +2 +3 9+47)? @3 '*;39 3? =' +5 '' @(' 2 963/':'/)2=5 =+'/+5 +3 +'593):5 6 46493? 2*? +3 3,3/ '4*= 4:5 =+'/+5 =47)? +2;3 /4563))3? +'5 4 39'<*= +'9 4::'/3 +3 4 <'*= 4 +'9 6'B2/ '/3 93359 4 +2;3 @33* +2 '*= ;3 (' 2*/'3* '539 +47<+5 +3 w7' ' 39 =3 3 4 +4)? +3 4::'/3 '*= 7 * +3 3)3/ '4*= 39 3? =' +5 +3 25*39$ 2: 3 =+'/+

08*- 2-/ D& *< + ' SO .5(.X @.(50" X 02L1@."a# =' 062 @ < 61 ' .0 6 6 1;$L'6 < $"! ' B 0.1 X1\.0 "0A'L1' . L N U 61\.0I "S.'L1 0 9- ' U"0I L1"= W 2"#1' 1B 'X(@5 \."@ 61 ' ' ' 6 0U" U"= % 1 8 ' L $ S.0@ @LL 0 (02.U %&$ 1& D D $ @ 9 "$,' 1U0@0I'" e/ $ 8 2 D&: @ IP% & 'b ! "= **>T ' 1f.' <L1\.U1+N#@ 8 ', 1 -2)-19218" 5"."06', 1 "((028"06 24 "&-1!1(' 08/ +, (, ', "@1 80" '."8-(.)1:U "!00D-"-6', 1 8'1..1; 5.050-1:', 1 ("8: :"'1 60.', 1 D 87-, 5 06 , - 0+8 "2', 0. '* 2" ', - -14)!"8(1 -: -51!!1:)*', 1 +"* 8 +, (, ', 1 1!1(' 08 06 8(2- -.15.1-18'1: 08*- 2-,0+1@1. 4"* ,"@1 1;5.1- , 4-1!6 (U.1!1--!*

+4=3;3 ' ' =29 3R7'9' 3 +2 ' +3 63 94*' 3)3/ 3?' 9+47)?'
@3' 266 4;3?' 4:' @(' +3' 4 +3 ' 4 ?3 6 2*?' +'9' =29' ?4*3'
@(' +3' /7 '39' 4:' +3' =4' '@39' /4*:3 '*<' +3')'
' +3' 3)3;2 '4' 4:' +3' +' ?' '@3' ' ' =29' '*')'E3' 52*C
*3 ' :2' ' +2 ' ' 9' /7 '39' 9+47)?' @3' 97554*3?' 4' 3A6 399'
+3' ' 2//36 2*/3 ' =+3*' +3' 3)3/ '4*' +2?' @33*' /456)3 3?'
@(' +3' 4 +3 ' =!4' *' '*9 ' 7 '4*' 4:' +'9' 94 ' =')' 47 C
)';3' +3' /27939' +2 ' 6 4?7/3?' ' 6' 4*3' '9' ?'964937' +4=C
3;3 ' 4' 933E' :4 ' 3294*9' =+(' ' =29' 52'* 2'*3?' =+3*'
+3' 3)3/ '4*' =29' /2 '3?' 4*' @(' 2)' +3' /7 '39' /4*,4'*)('
' 52('3' +3 ' +2;3' @33*' +2 ' +3' 63 94*' *45'*2 3?' +2?'
)'E3' +3' 33E' 52<'9 2 39' 4' 7*?3 <4' 2' 9/ 7 '*(' 2*?'
6 4;3' +2 ' +3 3' =29' *4 +'*<' 3*?3 '*<' +'5' 7*2@)3' 4 '
7*=4 +(' 4' 3* 3 ' 764*' +'9' 4::'/3$ 2*?' +3' 3A25'*3 9'
=3 3' 4' 52E3' +3' ' 364 ' 4*' +3' 97@,3/ ' 4' +3' /7C
'39' 6 4 ' +3' ?3)3<2 '4*' 4:' 94' < 32 ' 2' 64=3 ' =29'
?3353?' @(' : 33' 53*' 2' 53297 3' 94' < 2;3' 2*?' +2H2 ?C
479' +3(' 393 ;3?' +3593);39' +3' 64=3 ' 4:' ?3)'@3 2 '*<'
764*' ' ' ='/3' 4;3 ' +3')2 3 ' =29' '/3 409' ;'3=' 3;3*'
=? +' 3<2 ?' 4' +3' 2**72)' 2*?')'5' 3?' 52<'9 2/'39J '
9' +3' /7 '39' +4=3;3 ' /47)?'5*4 ' ;4 3' 4*' 2*(' 52 3 '
=+'/+' =29' *4 ' @ 47<+ ' @3:4 3' +35' @(' 2' ?3/ 33' 4:'
+3' 93*2 3' +3 3' 579 ' +2;3' @33*' 97/+' 2' ?3/ 33' '*'
+'9' /293' 2)94G' 2*?' ':' =3' 9766493' +2 ' +3' :' 9 ' /+4'/3'
=29' 52?3' 4 '<'*2))(' @(' 2' 62 ' 4:' +3' 93*2 3' +3 3'
=47)?' @3' +3' 9253' < 47*?' :4 ' +'9' 93/4*?' ?3/ 33' 29'
:4 ' 2E'*<' +3' 46'*'4*' 4:' +3' /7 '39' +3*' +393' +2?'
/329 ' 4' 3A'9 ' 3A/36 ' 29' 2' 53 3' *253' +3' 93*2 3' 9 '))'
3 2'*3?' +3' 64=3 ' 4:' 3:79'*<' ' 9' 2993* ' ='*<' 4'
+'9' ' ' =29' /4563))3?' 4' 3A6 399' ' 9' 2//36 2*/3' 6 3;'479)(

, -' +02!:')1' ', 1' 5.0@ 8(1' 06' ', 1' 508' 66-3)1("2-1' ', 1' D 87-'
,":' -0' 450.'"8" '" -, ".1' 8' ', 1' : @ 81' -1.@ (1'? "8:' ', 1' 5.1! 4 8".*'
-(.2' 8*/' ', 1' 1 ' (02!:' (1.'" 8!*')1!087' '0' 8081')2" ', 0-1' +, 0'
S-' gD ' ' - ' ' ' ' $D ' -*' "& ' " ' '
, ' ' $ $ ' 08*- 2-/ ' B ' 0.10@1.' ', 1*' 5.1G
- :1:' 8' ', 1' (04 ' '" 06' ', 1' (2. 1-
AA :1' ' "7 J' 2 ' ' S N#

4 +3 52 3 0 @3'*< 6 46493? 4 +3 6346)3 2*? +3 /4* '*72*/3 4: +'9 :4 52)' (5'9)3? ';(' '* 4 976649 '*< +2 +3 =+4 +2? 4 <';3 +3' 2993* ''* +3 32)'39 '2<39 =3 3 +3 93*2 3

+3)2= 4: +3 /7 '39 '*;39 3? +3 E'*< =' + 2)) +3 64=3 +3 *33?3? 29 +32? 4: +3 9 2 3 2*? 4: +3 2 5(2*? =' + 27 +4 ' (4 +4)? /4;= 9 2*? 4 2664'* ,7?<39ZI +3 3A 3* 4: +'9 6 3 4<2 ';3 /2**4 649 9'@)(@3 ?3:'*3? +79 57/+ +4=3;3 52(@3 /4*9' ?3 3? /3 2'*$ +2 +3 /3)3@ 2 3? /4*/3 * '*< +3 3563 4 9 =+'/+ +29 @33*+3 97@,3/ 4: 94 57/+ /4* 4;3 9(=29 +3 ;3 ( )2=+'/+ 2* 3? +3 4 +3 E'*<9$ +47<+ =' + 2) 3 2 '4*9 29 =3)) 29 2??' '4*9)2= 6 46493? @(2 E'*< =29 2 *4 94 4*3 /4*:3 '*< 3<2) 64=3 4* +493 =+4 =3 3 *4 E'*<9 +3 2@)3 /4*/3 *'*< +3 * 4: "39629'2*' '9 2)2= *4 2 ?3/ 33 4: +3 93 *2 3IZ 2) +47<+ 7*?3 +3 3563 4 9 2*(/45' 2 @7 53 3 9+2?4=9)'E3 +493 4: +3 /7 '39 2 3 47 4: +3 R739 '4* 579 +2;3 @33*' '* +3 26' '2*' /s?3 +2 +3 :4 57)2 (@(=+'/+ +3 =29 < 2* 3? 4 +3 E'*<9 =29 6 393 ;3?

+3 E'*<)(4:) /3 2 453 '*' 9 64=3 6 ';')3<39 2*? 39 '/ '4*9 3935@)3? +2 4: +3 +3 4'/ 2<39 '* 33/3$?'::3 '*< : 45 ' '* @3'*< 2 52<'9 2/(< 2* 3? 4*)(:4 +:3 +3 E'*< +2? +3 2@94)7 3 /45 52*? 4: +3 2 5(2*? =29 +3 6 '39 =+4 4::3 3? 92/ ':'/39 :4 +3 *2 '4* +3*' +3 =29 '*' +3 /' (+3 579 +2;3

N W H +, (, 8 ',0-1 :"*- ("8G 80" 50--)!*, "@1)118 :16 81:

Y 8(1 ', - +"- +. ''18/ , "@1 6028: ', "" ', - !"+ , ": "!G .1": *)118 .1(078 _1:)* .81-' '0)1 ', 1 $; (2.- 8)1.! 8J- "('2-/ @0! N - -(.25!1- ")02 '- 7182 8181-- +02!: , "@1 @"8 - , " "', 1 6 .- - 7, " 06 ', 1 0. 7 8"!3 0. 6 , 1 , ":)118 "+".1 ', " " +"- "!.1": *D80+8 8 ', 1 ' 4 1 06 ', 1 7!0--07."5,1.-/ "8: .17". :1: "- 081 06 ', 1 '+1!@1 '")!1- + 87 '0 ', - " +"- ("..1: '0 ', 1 "'1."8/ "- "".1! (06 "8(18 041

@33*' +3' 4*)(' 63 94*' 3* ')3?' 4' /4*;4E3' +3' 93*2 3' 2*?' +3' 6346)3' 2*?' 4')2(' 53297 39' @3:4 3' +35' 7')2=9' 2*?' R739 '4*9' 4:' =2' 2*?' 632/3' =3 3' ?3 3 5'*3?' 764*' @(' +3' /' 'H3*9. I!$ 2) +47<+' +3 3' /47)?' @3' *4' 6 3/'93')'5' 9' 4' +3' 64=3' 4:' 2' 97//399:7)' 2*?' 6467)2' 6 '*/3' 3' +2?' +3' '<+' 4:' 67*'9+'*<' +3' ?'94@3?'3*' = +' /4 64 2)' 63*2) '39' 2*?' :'*39' *' 26632)' +4=3;3')2(' : 45' 97/+' 93* 3*/39' 4' +3' 29935@)(' 4:' +3' /' 'C H3*9 I .$ 2' 6 ';')3<3' =+'/+' =3' /2**4' /4*/3';3' 4' +2;3' @33*' 3*,4(3?' @(' 2*(' @7' +3' 62 '/'2*9' ;3 (' *'* +' ?2(' +3' E'*<' +3)?' +'9' /47 I .' 4' +'9' '@7*2)' @3C)4*<3?' +3' 2?,7?'/2 '4*' 4:' 6 463 (' 2*?' 63 94*9' +3' 6 4C 3/ '4*' 4:')3<2)' 6499399'4*$ '*' 2' =4 ?' 3;3 (+'*<' 97@93C R73*)(' '*/)7?3?' '*' +3' ,7 '9?'/ '4*' 4:' +3' 6 3 4 ' 3;3*' +3' 299'<*'*<' 2' ,7?<3' :' +3' /+493' +4=3;3' 4' ?3/'?3' /27939' '*' 63 94*' +3' 5'<+' ?4' 94' '9' 64=3' 4;3' 3C 9'?3* 9' =' +'*' +3' 62)3' .' 2*?' 4;3' 2))' =+4' ?'?' *4' @3)4*<' 4' +3' +47939' 4:' +3' /' 'H3*9' +2?' *4' @47*?9' 2*(' 54 3' +2*' +2' 4:' 2' ?'/ 2 4 ' 44 (' 2*?')2*?' 2/C R7' 3?' '*' =2' =3 3' 2' +'9' 2@94)7 3' ?'96492)' 94' :2' 29' +3' /)2'59' 4:' +3' /' 'H3*9' 4' +3' 797: 7/' ?'?' *4' 9 2*?' '*' +'9'T=2(' ' 62 ' 4:' +3' /4*R73 3?' 3 ' 4 (' :3))' 4' +3' 9+2 3' 4:' +3' / 4=*$ =+'/+' +2?' 3A 3*9';3' ?3539*39' 2 2/+' 4' ' /7) ';2 3?' @(' ' 9' ;2992)9' I.' 2*?' 9766)('*<

08*- 2-/2' ' @ 'NN

AA H.0@0("' 0214'1' "4' "' .17)2-'62 --1' :1(!".'8" 508' 6 (a!). /- 78 6 ("8" 80-'. ' 1' "4' "27 ."!1-'? (1.0/ :1' 1'5' ' ' 11')1G !0+/ 80'1' BN

U' "(.0) "-/ ' ' 2-(' 8080'920921' : 1'.1714'-224'-"!2'" ')"8'/ 1" :1'5.05. -' 8170' -' (08-2!1)"8' ' ,1'611! 87-/ +, (,' ',1' .1(0!!1(' 08'06'', -' 2-"71'D15" "! @1/5.0)")!*' 0(("- 081:' ',1'-15"."'G 87',1'8081-' "8:' ',1'828: 81 'S "(.0) "-/ #3' 80" ',1' 6")2!02-' ("2-1' "-- 781:' 60.' ' ' 11' 80'1-' B /F

>' 11' ',1' '1;" '0' 80'1' FN

7./ ".@' 1" ".)2-' ' 1" 5"-(2/ !"' ' "'921' 2)1.1-/ :1 8 1)"8' '2./ 92' 1--18" .17 / (0!1.18'2.921' - 81' .1724' 051." "'921' !")0.1'? (1.0/ :1' 1'5' @'

' ' =' +' '/+39' 2*?' =' +' 2' ?3;4 3?' 2'*' ;3 ' +3' 2?C
5'*'9 2 '4*' 4:' +3' 64* ':'/2)')2=' +3' E'*<' ?'?' *4 ' 6 3C
9'?3 ' +3' '*?363*?3*/3' 4:' +3' 27<7 9' '9' 2662 3*' '*'
+3')3<3*?' 4:' 79' 2;'79C' +2 ' 4:' +3' 64* ':)9' '9' R7' 3'
29' 7*R739 '4*2@)3

:4 +3 ?7 2 '4*4:)@2 =+'/+ '9 6 39766493?@(' +3 /+ 4*4)4<(' 4: +3 2*/'3* 643 J 6 2*?9 97 3)(' ' /2**4 +2;3 @33*@(' 53 3 /+2*/3 +2 +3 =4 ?9 '* =+'/+ 4?39 '*;4E39 +3 <4?9 '@3 9+47)?@3 94 *32)(' +3 9253 '* +3 =4 2 / / 4 7 * 9 3 /47)?@ *4 +2;3 93)3/ 3?@ 54 3 ,7?'/'479)(6 2*?9 94)4*< 29 +3 +'9 4 (' 4: 453 9+2)@3 = ' 3* +3 27 +4 '* +'9 62 +29 *4 /+4'/3 @7 4 2*9)2 3 ';($ 4 ':+'9 =4 E)'E3 5'*3 =')*4 2?5' 4: 97/+ ?3 2')9 4 <';3 2 9!7*6)3 47)'*3 4:643 59 =' + =+'/+ =3 52(' +266')(' 6 39753 3;3'! 4*3 4 @3 :25')'2 '* ';(09 3A/3))3* 36 393* 2 '4*

63 94*=+4)44E9 :4 +'9 4 '/2) 7 +' 2*?9 /4*93C R73*)(' :4 /4**3A'4* '* +3 94 , 4: +3 :' 9 /3* 7 (' 4: 453 579 :'*?9 ' =+4))(' '*/456 3+3*9'@)3 +2)@2 9+47)?@ ?'926632 2) 4<3 +3 +3 5453* +3 /' ('9 :47*?3?' +3 2?' '4* *3' +3 3))9 79 4: 2*(' 2'?@93* @(' +3 54 +3 /' (' ?7 '*< +3 ?2*<3 +2 + 32 C 3*3?@ 453 6 *4 ?439 ' 3A6)2'* +4= =+3* +3 2/3 4: *329 @3/253 3A '*/ =' + 75' 4 457)79 =29 3AC /)7?3?@: 45 +3' + 4*3 4 +=+2 '9 92'?' 2*?9 =+2 ,9 *4 92'?@ 4* +'9 64'* 3*?9 4 39 2@)'9+ +3 *2 7 3 4: +493 2//47* 9 =+'/+ 2 3 <';3* 79 :4 +'9 4 '/2))@2 2*?9 452 =3 3 3* ' 3)(' 9 2*<3 9 4 32/+ 4 +3 * +3)3<3*?9 =+'/+ 3)2 39 +3 :2) 4: +3 :4 53 ' ' '9 *4 +3 ');'" =+4 7)3 +3 3 @7 ')7')'79 4 ' %7::3B '79 29 ?'/ 2 4 4 6 3 4

7 72) 2/ 9 4: ;'4)3*/3 +2 @33* /45 5' 3?@(' +3 /' 'H3*9 4: +3 =4 /' '39$ 2*?9 ' :3) 47 +2 @4 +4: +35 93* 35@299'39 4 ?352*?9 92 '9:2/ '4* 2 +3 9253 '53 4 3*?3 +3)@2*9 3964*9'@)3 :4 +2;'*< *,79)(' 3:793?@ 4 52E3 2 4*353* +3 452* E'*< ?3 2'*3?@ +3' 35@2992?4 9 @(' :39 ';2)9 2*?9 @2*R73 9 ?3/)'*'*< 4 '* 4?7/3 ! +35 '* 4 +3 93*2 3$ 7* '))'3

11 5l# '"8: B

)1. 81 5"'1./ '1 -o81'1 5.1(0./ ,"1(' ".4"" 1" ,28(' 4 ! '14 5.05 ' 0 6!24 81 "((5 "-? @*/ 1921/ 5"'1.')1. 81/ '20 24 6!24 81 -"8('0? 88 2-/ 5

)@2*9 +2? 3:793? 4 ?3)';3 76 +3 4::3*?3 9 4 +3 452* 3*;4(9 2*? +393 +2? +3 3764* ?3/)2 3? =2 2<2'*9)+2 l l +3 2 5'39 4: +3 =4 /' '39 =3 3 ? 2=* 76 2<2'*9 32/+ 4 +3 4* +3 %4992)7')'2$ =+3 3 ' / 49 +3 2 '* =2(2*? +3 @47*?2 (4: +3 452* 3 ' 4 (k +3 6 '*/39 /2533 4 2* 2< 3353* 4 2;3 +3 @2)3 @(2 /45@2 +3 3 =3 3 '* 32/+ 2 5(+ 33 @ 4 +3 9 4: +3 9253 2<3 +3 4 2 '" 2*? +3 7 '2B ''G +3' 54 +3 9 =3 3 9'9 3 9 2*? +2? @4 + @ 47<+ +3' 94*9 '* 4 +3 =4)? 2 2 @' +k. +3 2*/'3*

1!!24 8'. 71- 424: 14 2: ;1."8'/ -"*- @* ((0.: 87 'O',1 61("!!"+ ,0+1@1. " +"- ',1 5."(' (1/ "6'1.' ',1 !"5-1 06',.11 .1-5 '1-/ 1"(, 06'18' :"*-/ $O.'! D1+ -1 "6'1.', .'* ',.11 :"*-/# 'O :1G (!".1/ ',"" " +"- 80+' 41 60.' ',1 1!:1.- "" ,041 'O '"D1 (028-1!/ +,1',1.',1*- ,02!:' "@1871 ',1 .' +.087)* +".? "8:' -2(,' "--2.1:!* +"- ',1 "((028" ,1 "8(18" 501" 7"@1 8 ! - 5!"(1 O :02)" ',1 (,"871 ,":')118 4":1 !087)160.1 @*J-' 41)* ',1 "88"! - ,1 60!!0+1:/',027,' ',1 824)1.+"- 80" "!'071',1.' ")"8:081:3 "8:' (1.G '" 8!* " +"- -'".! 87/ ',"' ',.'* :"*- -,02!:' 1!"5-1/ "8:' *1" ',1 !)"8- "" 041 80" ,1".' 06',1 :14"8:' 4":1 8' ,1 .' ('*)* ',1 61("!- 0+1@1.' +,"" 811:' ,":' ',1 501" 06 ("!(2!"' 87 ',1 "('2"! : -'"8(1f 1 ,":' ',1 . 7," 06 18!".7 87 /' "- 42(,' "- -1.@1:' , - 52.50-1 I2-" "- 1.0:0'2- "8:' L1805,08 08',1 (08'."* -51"D 06 ',1 1:1- "8:' H1.- "8- "- 6',1 .' (028'.* +1.1 80" 40.1 1;'18- @1 ',"8' ,"" 06 " -4"!! C.11D 5105!1/ 8"* 06 " - 87!1 ('* + ',' '- :04" 8

B ,"" -/ 81".' 1''1,"-- /)1'+118',1 602.',' "8:' 6 6',' 4 !1G -'081- 6.04',1 H0.'" "518"/ 08',1 .0":' 'O .1-("':? 60.',1 " "' 8"/ +, (,' +"- 42(,' 0!:1.',"8',1 " 55 "/ !1:' 8',0-1:"*- 'O !)"? -11 ")0@1/ 55 / 1" ',0-1 +,0 70 "!087',"" .0":' ', 8D 06',1 0."' ' 8',- 5"." 06 ' ,1 8"41 06',1 : '(,' +"- 28921-' 08")!* :1. @1:' 6.04' "8 !)"8 5. 8(1? 60.',1 -"D1 06 1;G 5!" 8 87',- 8"41/ ',1 -'0.* +"- 8@18'1:' ',"" ',1 ". 4 1- 18("45 "" !087' 41 8',- 5!"(1/ "8:/ - 8(1 2661' 2- "551".- -2) -19218'!* "- ',1 5.1'0.' 06 ',1 !)"8-/ ',"" !2 ! 2- : 1:' ,1.1 ,1 0!:1- '.": ' 08 42- ,"@1 .15.1-18'1:' ',1 5. 8(1- "- "7.11 87 6.04' ,1 6 .-'/ ',"" ',1* +02!:' 411'/ 1"(,' "''18:1:')* , - 5105!1/ "" ',1)0.G :1.- 06 ',1 .' '1.. '0. 1-/ "8:' !1"@1 ',1 :1(- 08 06 ',1 .' 92"..1!' 'O ',1 70:-

A @1.*)0:* + !! 51.(1 @1 ',"" +1 ,"@1 ,1.1 '*51- 06 ',1 '+O 8"' 08-/ .17".:1:' "- - -'1.-/ "8:' 06 ',1 ',.11 '.)1- 8 1"(,' 06 ',14

2 2 4 9 ;2 '3? 9453 '539 /2))'< +3 4 2 '' 2*? 9453 '539 +3 7 '2 '' 452*9 4)@2*9 ' =29 4*)(+3)2 3 +'9 4 '2*9 =+4 /253 4 2 ?3/'9'4*4*+'9 64'* *4 '9 +3 3 2*(@3 3 27 +4 ' (+2* +3' /26 '/3 :4 +3 46'*'4* =+'/+ '9 *4=7*';3 92) 2*? =+'/+ 44 9+2)):4))4= +2 +3 :4 53 =3 3 452*9 =4 4:+3 4 2 '" +2? :2))3*9 +3 +' ? =29)3: 7*+7 4 /4*9 3*? 2<2'*9 + 33 =47*?3? :439 2*? @(/ 2: 2*? 9E'))4;3 /253 +35 +3 <2 3 4: +3 /' (+'9 9'9 3 53 +'5 2*? /7 9 +'5 '* +3 ?3962' 4* 933'*< +'5 /4*9 ?7/ 3? @(+3 3A7) '*<Q2 5(2*? @32 '*< 2)4: +3 964')9 4: +3 9)2'* 254*< +3 39 +3 35@ 4'?3 3? /)42E 4: +3 @3 4 +3?=+'/+ 9+30 +3 93): +2? =4;3* *<3 93'H3? +'5$ 2*? 9+3 :2)) @(+'9 +2*?+3 ,7?<39 4: @)44? /4*?35*3? +'5 4 @3 +7*< 764* +3 :2 2) 33IL.9 +3 26632)3? 4 +3 6346)3$ 2*? +3(<2;3 +'5 +'9)':3

%4 +3 /4562/ +2? @33* +2 +3 *2 '4* =+493 /+256'4*9 9+47)? @3 ;'/ 4 '479 =29 4 /4552*? +3 4@3?'3*/3 2*? 93 ;'/3 4: +3 4 +3 '9 2*? +3)@2*9 :7):'))3?!' +3* %'?3*c +4=3;3 +2! '*< ? ';3* 47 4 4;3 64=3 3? +3 452* /4)4*'9 9 =29 ?3:3*?'*< ' 93): =' + +3 +3)6 4: +3 "3'3* '*39. 2<2'*9 7))79 2*? +3 452*9 '* +3 @2)3 +2 3*973? +3 4C 52*9 9 44? 2<2'*9 +3 "3'3* '*39 9 4* +3 '<+ 4;3 2<2'*9 +3 %'?3*2 39 =3 3 +3)@2*9 7*?3 +3' ?'/C 2 4 3 '79 %7::3 '79LJ %2' +)399 2*? (3 ' 394)7 3 +3 ? 3= +35 4:): 45 +3 /4*:)'/ 4 +3 +'))9 +3 79/2*9 933'*< +2 +3 ?'?' *4 E336 +'9 3*<2<353* 2*? 97963/ '*< +2 +3 532* 4 2 2/E +3' :)2*E

,1 5,."-1/ d 8 3 8 ',1 .-"8 !"+-/ "8-+1.-''0 1

I +02!:,"@1)118',1.1": 87 8 @*/2- +1%"- !! 88 2-/=8 +,04 "- '0)15.08028(1:Id ^!11d ^ ='"8: 8',1C.11D +.'1.-/28!1--',1"2',0.'*06'!1 4"82-(.5'- ,":,1 18 : -.17".:1: ,15.051.8"41- 06',1 "' 8-.1-14)!1 718'!1 8"41- 8',1.''1.4 8"'08-'3 8-

<2;3 =2(!2*? :)3? 2)4*< +'9)'*3$ =+3* +3 =4:4)?
2' 4 :3) 764* +35' '* +3' ?'94 ?3 '* +3)'463 4:
/)42E'*< +'9 32/+3 (+3 452* E'*< :3'<*3? +'5
93): ?3/3';3? * +3 :4))4='*< ?2(+3 =4 2 5'39 =3 3
9754*3? 4 3/3';3 +3' 6 2'939 2*? 3=2 ?9 3
=+493 /47 2<3 :4 92E39 +'5' '* +3 3A3/7 '4* 4: 2 / '5'
2) 6)4 =') 97 3?3 +'593): 4 ;3*<32*/3 ': ' @3
?'9935@)3? =' + +3 ;'3= 4: 2;4'?'*< =+2 5'<+ /4*
:' 5 +3 9796'/'4* +2 97/+ 2 6)4 +2? @33* :4 53?
+3)@2*9 /253 =' +47 +3' 2 59 =3 3 97 47*?3?
@(+3 452* 4469 2*? +32 ? +3 93* 3*/3 4: +3 '*
3A4 2@)3 E'*<$ +2 29 +3' ?'/ 2 4 +2? @ 4E3* +'9
:2' + @4 + 4 453 2*? 4 +3 79/2*9 +3 9+47)? '*
)'E3 52**3 @3 4 * '* 6'3/39 @(+4 939 ? ';3* =4
46649' 3 =2(9$ 2*? 29 :4 +3593);39 2*? +3' /' (
+2 +3(9+47)? 354;3 4 453 2*? +2)@2 9+47)?
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@3'*< 2) 32?(9 '6 4: 2) ' 9 53* /262@)3 4: @32 '*<
2 59 =29 97 6 '93?' 2*? 2H3? 4 +3 947*? 4: 75
63 9 .P: 2) @7 +3 356)39

7))79 299'<*3? +3)@2*9 +2@' 2 '4*9 4* +3 5)'2*
+'9 '9 2 64'* 4* =+'/+ +3)3<3*?2 (+'9 4 (4: 453
52(3)(@3/2793 +3 =29 3<2 ?3? 29 +3 :47*?3 4: +3
7/3 39)93 +3 93)353* 4* +3 5)'2* =29 29
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:2 @2/E 29 7*?3 457)79 2*? 4 +3 9 2<2'* 57/+)2 3
+2* 7))79 +3 62 '/'2* +4793 9 +2 ?3?7/3?
+3' 9 4/E : 45)@2 @3)4*<3? 4 +3 7/3 39$ 3;3*
+3 7)''6 2*? +3 :2/ 4: +3' +2;'*< /453 : 45)@2
 +4)? 4 @3 +'9 4 '/2))(/3 2'* 29 =3) 29 +3 :2) 4:
)@2 7 +3 =2 =+'/+ 3*?3? '* +2 :2) +29 4*)(
2*' '*?3:'*2@)3 +'9 4 '/2) :47*?2 '4*)'E3 +3 4,2* ,;2
+3 6 4@2@')' ('9 +2 453 '* /4*,7*/ '4* =' + +3
2 '* 4=*9 44E)@2 2*? +2 +3 2))'39 ?';'?3? +3
3 ' 4 (2*? +3 6346)3 +3(+2? /4*R73 3? %4 @(

"3''$' 2*?' +'9' =2 ' '9' /4**3/ 3?' =' +' +2 ' 2<2'*9 ' %'B'
?3*23 ' ,79 ' 29' +3 3' '9' 2')'E3' /4**3A'4*' '*' +3')3<3*?'
4:' 457)79 ' ';(' =+4' 629939' 4;3 ' ' +3 3 ' 9335 9'
3;3 +3)399' 4' '/)7?3' ' ' '*' +3' 4 2)' *75@3 ' 4:' +3'
"3'3* '*3' =2 9 I!JOO

*' +3' '53' 4:' *))79' +3' 2@'*39' =3 3' +3' 549 '
64=3 :7)' 6346)3' '*' 2)' 2)(!*3A ' 4' +3' 79/2*9 ' 7)B'
)79' =2 3?' 2<2'*9 ' +35' =' +' 97//399$' 7* ')' +3' 2*<3 '
4:' +3' <4?9' 2 ' +3' *3<)3/ ' 4:' +3' ' 93 ;'/3 2*?' 2 ' +3'
?3/2(' 4:' +3' 6'3 (' '*/7)/2 3?' @(' 752 ' =29' 2**47*/3?'
@(' 2' 9+4=3 ' 4:' 9 4*39' 4*' +3')@2*' 547* ' 2*?' @(' 2'
639 ')3*/3 ' +3' E'*<' +'593):' :3))' 9'/E ' 2*?' 92*E' ?3B'
964*?'*<)(' '* 4' 39)399' 9763 9 ' '4*' 9' +3' <4?9' 63 B'
'9'9 3?' '*' +3' ' 9')3*/3 ' 2*?' =47)?' *4 ' < 2* ' +'5' 2*(' 9'<*'
Þ3;32)'*<' +3' 532*9' 4:' 2 4*353* ' +3' 947<+ ' 4' /4*9 2'*'
+35' 4' 2*9=3 ' +'5' @(' 7520' 5(9 3 '479' ' 39' 2 ' +3'
2) 2 ' 4:' 76' 3 ' /'79 ' 7 ' 2*' 4;3 9'<+ ' '*' +393' 63C
')479' /4*,7 2 '4*9 ' 4 ' +3' = 2 +' 4:' +3' <4?9 ' ? 3=' ?4=*'
2' +7*?3 @4) ' 4*' +'9' +32?' +3')'<+ *'*<' /4*97532?'
+'9' /4 693 ' 2*?' +'9' +4793 ' 4<3 +3 ' =' +' 2))' +'9' :25')(' '
' 3'<*' 4:' =4' 2*?' +' (' (32 9' =29' 299'<*3?' 4' +'5

+3')2(' 4:' 7 79' 49 ')'79' '9' :4))4=3?' @(' +3' *2 2C
'4*' 4:' 2' /47 93' 4:' 3;3* 9 ' =' +47 ' 2*(' 52 ;3))479' /' C
/759 2*/39 ' 4 ' 643 '/2)' /4)47 '*<' (' +3' :47*?'*<' 4:'
9 '2' +'9' *2 2 ';3' '9' /4**3/ 3?' =' +' 32)' +,9 4 (' 7 '
' ' '9' =4;3*' '* 4' 2' /+ 4*4)4<'/2)' /4567 2 '4*' '*' =+'/+'
+3' '/E9' 4:' 3)2@4 2 3' :2)9':'3 9' 2 3' 549 ' /)32)(' 2662C
3*

/79' 2 /'79 ' : 45' =+45' +3' 6)3@3'2' +4793' 4:'
+3' 2 /'" @429 3?' 4:' ?39/3*?'*<' =29' /2))3?' '*' +3' 2C
?' '4*' +3' 94*' 4:' 7 220' ?27<+ 3 $' =+'/+' 2))7?39' 4' +3'
6 2/ '/3' 4:' 2E'*<' +3' E'*<9' @(' 7 *9' :'B45')'3' 452*9'
2*?' +3' w7' ' 39 ' '*?:7)' 4:' +'9' 2*/39 4 0' 3A256)3 ' +3'
266)'3?' +'593):' 4' +3' 339 2@)'9+53* ' 4:' 3)'<'4* ' =+'/+'
+2?' :2))3*' '< 4' *3<)3/ ' 3' +2?' +3' /3 354*'2)')2=' 94

:2 ' 2 ' ' 3R7' 3? 4 @3 <3*3 2))(' E*4=* ' 2*9/ '@3? 764* 2@)39 ' =+'/+ =3 3 93 ' 76 '* 67@)'/ +2 ' 2))' 5 '<+ ' 32? +35 ' *?33? =3 52(' 32?')(' @3)'3;3 +2 ' ' =29 *4 ' '))' 2: 3 ')'3 '53 4: +3 E'*<9 ' +2 ' +3 '*?'963*92@)3 4@B 93 ;2*339 4: 3@<'4* =3 3 /4*;3 3? @(' +3 64* '::9 '* 4 2 5(9 3 (' 4*)(' 4 @3)32 * ' : 45 ' +3' ' 32/+'*<

+3 3'<* 4: */79 +4=3;3 ' =29 *4 ' ?39 '*3? 4 @3 94 632/3:7)' 2 ' +2 ' 4: 752 ' 3 /4*?7/ 3? 2 97/C /399:7)' =2 ' 2<2'*9 ' +3 2 '*9 ' 3 44E 4)' 4 '75 ' 3))3*2 ' %'/2*2 ' 4=*9)('*< @3 =!33* 453 2*? +3 932 ' +3 " '2 ' 9 '3*9'9 2*? +3 ?32 '*2 ' 2*? /4563))3? +3' ' '*+2@' 2* 9 4 93)3 764* +3 ;3* '*3 ')3*< + ' @3C '*< 2)2 53? @(' +3 ?2*<3 ' 4: 3?7))'2 ' 2 /4*:3?3 2 3 2 5(' 29935@)3? D4;3 ' =+'/+ +3 E'*< <2'*3? 2 +2 ?B :47<+ ' ;'/ 4 (6 =+3 3764* ' +3 : 2?' '4* 92(9 ' +3 /2 C '3? 2=2(' 93;3 2) +4792*? 2 '*9 4 453 ' 3 2)94 ' 52?3 /4*R739 9 : 45 " 3'' ' 2*? <2'*3? 9453 :4 39 9 4* +3 932/429 ' 2*? 9453 92) 52 9+39 ' 29 =3)' 29 +3 =4 @2*E9 4: +3 '@3 ' ?4=* 4 ' 9 547 +' 3 3 +3 @7)' 9 '2 ' +3 4)?39 ' 452* /4)4*(' =+'/+ +3 +'9 4 '/2)' 2<3 3/4<*'H3? 29 +2;'*< @33* 6 393 ;3?6 :4 ' +493 :47*?3? @(' 457)79 ' %'?3*23 ' 79 753 '75 ' 2*? 3?7))'2 ' 3:C :2/3? +'9 /+2 2/ 3 ' @(' +3' ' 3+3))'4* ' 9 '2 ' =+'/+)'E3 +35 ' 3*,4(3? +3 23 ' 3 : 2*/+'93 ' =29 +3 +2 @47 ' 4: 453 ' +'69 4: /4*9'?3 2@)3 9'H3 /47)? '* +493 ?2(9 7* '* 4 +3 - '@3 $ +3 547 +' 4: =+'/+ 62)(' + 47<+ *3<)3/ ' 2*? 62)(' : 45 ')),7?<3? 3 3/ '4*9 ' +29 *4=' @3C /453 '*2//399'@)3 ' 3;3* 54 3 94 +2* +493 4: +3 4 +3 ';3 9 +2 ' :)4=' '* 4 +3 3?' 3 2*32* ' 3 @7')' +3 :' 9 ' @ '?<3 4;3 ' +3 '@3 ' 2*? 2 :4 ' @3(4*? ' ' 4* +3 2*'/7)75 ' 29 2 @7)=2 E 2<2'*9 ' 5 '2 ' * +3 4 +3 ' 9'?3 +3 ?7< +3 ?' /+ 4: +3 w7' ' 39 ' 2 6 4 3/ '4* 4: /4*9'?3 2@)3 '564 2*/3 ' 29 ';(' 92(9 ' :4 ' 97/+ 62 9 4: +3 /' (' 29 9 44?)4=' 2*? =3 3 3A6493? ' +'9 ?' /+ ' 2 4 E 4: *4 96)3*?47 ' 2*? *4 ' 53* '4*3? @(' 2*(' 4 +3 ' = ' 3 ' +59 ' =' +47 ' ?47@ ' @3 +3 2 2*2 ' 2 /4* '*72C '4* 4: +3 %4992)7')'2 ' =+'/+ 4 '<'*2))(' 63 +269 =29

@ M

/2 '3? '* 4 4*3 4: +3)')3 ';3 9 :2))'*< '* 4 +3 'C @3 @3)4= 453 =29 2 ?3:3*93 :4 +3 463*< 47*? @3 =33* +3 23)'2* 2*? +3 2)2 '*3IJIG 2*? ' ? 2'*3? +3 ;2))3(4: +3 7 /'2 =+')3 ' 9766)'3? +3 2562<*2 =' + =2 3 +3 4)?39 352'*'*< 54*753* 4: 453 +3 6 '94* :4 53? 47 4: 2 9 4*3R72 (' '* +3 26' 4)'*3 +')) '9 2)94 /2))3? +3 =4 E 4: */79 J =29 4* +3 9'?3 4: +3 +')) 2@4;3 +3 %4 75 +3 6)2/3 4: +3 6)3C @3'2* 29935@)'39G 2*? 7* ') 2* 3R72)' (' 4:)2=9 =29 '*C 4?7/3? ' ' 93 ;3? 4*)(' 4 E336 +3 6)3@3'2*9 2*? +493 =+4 =3 3 @3)4= +35 '* /79 4?(3*/3 +3 /4*9 7/C '4* 4: ' ' 52(' +3 29/ '@3? 4 +3 9253 E'*< 4 =+45 +3 :' 9 39 2@)'9+53* 4: +3 6)3@3'2* 39 2 3 '9 3:3 3? +3 4 '<'*2) /45 54*)2= 4: +3 6)3+9 =29 3<2 ?3? 29 +3 :'!7' 4: +'9)3<'9)2 '4*$ '* +3 9253 52**3 29 +3 '<+ 9 4: +3 + 33 2*/'3* '@39 =3 3)44E 764* 29 +3)2=9 4: +3 :' 9 + 33 E'*<9 J\$ 2*? @3/2793 2))')2*?3? 6 463 (' @(' +3 6 '*/'6)39 4: +3 452*)2= '9973? : 45 +3 9 2 3 2*? 4* +3 '*/4 64 2 '4* 4: *3= /45 57C *' '39 +3' ')2*?9 =3 3 97 3*?3 3? @(' +35 2*? /4*C :3 3? 4* +35 2*3= +3 299'<* 53* 4: 67@)'/')2*?9 '9 2 '@7 3? 4 */79 IZ 4= +'9 2/ '@3'*< ;'3=3? 29 2 62 /3)'*< 47 4: +3 67@)'/' ?452'* 29 6 4@2@)(' =+2)3? +3 6)3@3'2*9 4 @39 4= +3 36' +3 4: 764* +'5 '* +3 4)? 6435 96 29 4* +3 4 +3 +2*? ' 579 +2;3 @33* +3 9253 2/ +2 '*?7/3? "' <')' 4 /+2 <3 +'5 =' + ;2*' (' 2*? /47 '*< 6467)2 :2;47 I +3(' =+4)44E =' + 2;3 9'4* 4* +3 @3*3:'/3* 2*? E'*<)(' =4 E 4: :49 3 C '*< +3 <3 59 4: *3= '<+ 9 2*? /+3 '9+'*< +35 29 +3(' 96 '*< 76 933E :4 +3 947 /3 4: 97/+ /4*?7/ ' *4 '* +2 <3*3 49' (' 4: 5'*?' =+'/+ =+')3 ' ' 3963/ 9 +3 '<+ 9

,1 (2- 06 15'14 "1

B 11 80'1 BN Y (1.0/ :1 1 5

E 3 8(2- 88 2-/ 8 5 2(.1' 2-/ 8 k(' 8"."-'00 -"*-? G 8 .7 ! 08 ',1 (08'."*,1 - J h 8(2-/

4: =+2 3;3 +29 2*( )' ;'*< 3*3 <(3,4'/39 '*)'3 /45'*<
:4 + 4: *3=)':3 2*7 9+ '*E9 : 45 +3 9'<+ 4: 4 647
2*7 ?3/2(@7 '* '567 3 '+4 ';39 =+'/+ ' B'9 73 52(
<';3@' + 4 2/ '4*9 *4 ?'99'5')2 '* 26632 2*/3

+3 < 47*7 2@47 +3 356)3 4: 7 /'2 @3 =33* +3
' /79 2*7 +3 ;3* '*3 /2**4 +2;3 2::4 ?37 54 3 +2*
9/2* (445 J 2 :3= +7*? 37 952) +47939 2*7 /2*
3;3 +2;3 @33 97::'/'3* :4 +3 52*(+4792*7 :25')'39
+2 ';(9632E9 4:Z I 7 +3 **2)9 52(63 +269
+2;3 @33* ,79 ':'37 '* 9 2 '*< +2 3;3* +*9 32)(2 ;3 (
)2 <3 *75@3 4: : 33 2 '*9 =3 3 '*/4 64 2 37 =' + +3
452* 9 2 3 3 +269 +4=3;3 +'9J=29 *4 3::3/ 37 @(
/4*R739 @7 @(2 ;4)7* 2 (32 ($ ': =3 9766493 +2
2: 3 +3 ?39 7/ '4* 4:)@2 2* 2< 3353* =29 3* 3 37
'* 4 @(453 2*7 2 '75 +2 2 62 4: +3)@3*9'2*
2*7 2 62 4: +3 '9/2* 2 '* 4=*9 9+47)7 @3)4*< 4
453 =+')3 2 *3= 9 2 3 /4*9'9 '*<)'E3 +3 4)7 4*3 4:
+' (4=*9 =29 :453 7 47 4: +3 39 %4 2 9'5')2
2 2*<353* =29 3* 3 37 '* 4 @(+393 9 2 39 4* =4
93;3 2) 4//29'4*9 ?7 '*< +3 +'9 4 '/2) 2<3

+3 *3= 97@,3/ 9 /47)7 *4 @3 2?5' 37 '* 4 2 *3=
'@3 29 +3 7/3 39 +27 @33*6 :4 @(+3 3/36 '4* 4:
+393 +3 *75@3 4: '@39 +27 @33* /456)3 3?$ 2*7 '
/47)7 *4 @3 '*/ 329 +3(/4*9 ' 7 37 2 /4557*' (
=+'/+ 9 447 9'?3 @(9'?3 =' + +3 6346)3 :4 537 @(+3
535@3 9 4: +3 +' (/7 '39 29 +3 @4?(4: +3 2 '*
4=*9 +27 9 447 '* 3)2 '4* 4)@2 +'9 =29 +3 @3C
<'**'*< 4: +3 6)3@9 +3 9 3*< + 2*7)':3 4: 453$
+3 6346)3 4: */79 29 ?'9 '*<7'9+ :' 45 +2 4: 4570
)79 *7 +'9 '9 2 : 39+ 3294* =+(*/79 =29 6)2/37
'* +3 5'??)3 4: +3 452* E'*<9

  ? I "' 80.24 8(@ '"'14 "((15' -/ 92) -/
2"I2871.1'2. H"'!"' 0 @18' 82-/ ": 2.2 "1 :"'"1 -1:1-
Y ,1 +0.:- 8 ',1 (08(!2: 87-'.05,1 06 ',1 ,*48 06 "'2!!2-/
LLL @/ -920(24921) 5!"(1 "8('" N , J, ; W
2 -0! '" 1-/)08" 0-5 '1- 051 718'14/ "8-+1.' '0 ',1 60.42!".*
M20: 61! ; 6"2-'24 60.'28"'24921 - " , W N

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("! 71.J-ˢ 5 1.(87ᶠ 1*1ˢ :1'1('1:ˢ ' ,1ˢ '.21ˢ .1": 87ᶠ 8ᵉ ', -ˢ 5"--"71/ 6.04ˢ 6 8: 87ᶠ ' , "ᵉˢ ' ,1ˢ '1 ; '/)160.1ˢ ' ,1ˢ 1: '0.-ˢ : -6 72.1:ˢ '/ +"-ˢ aˢ W ᵗᶠ 02ᵉ" 06ᵉ +, (,ˢ -251.6 ("!ᶠ (. ' (-/ "!+"*-ˢ 1"- !*ᵉ -"' -6 1:/ , ":ˢ 4":1ˢ W ˢ ' ,1ˢ .1": 87ᶠ ":05'1:ˢ)*ᵉ , -ˢ 5.1:1(1--0.-ˢ ,1ˢ ! 7, ᵉ +, (,ˢ !1:ˢ , 4ˢ -114-ˢ '0ᶠ , "@1ˢ)118ᵍ ' , "ᵉ" 06ᵉ 7. "4 4 "' ("!ᶠ !07 (/ +, (,ˢ '"27 , ᵉ , 4ˢ ' , "'/ '0ᶠ (045!1'1ˢ ' ,1ˢ -18-1ˢ 06ᵉ ' ,1ˢ 5"--"71/ "80' ,1.ˢ (08G I28(' 08ᵍ +"-ˢ +"8' 87ᶠ "6'1.ˢ U W ˢ ᵉ !1"-ᵉ ˢ :0ᶠ 80ᵉ D80+ˢ 06ᵉ "8*ˢ '."(1ˢ 06ᵉ , -ˢ , "@ 87ᶠ 1@1.ˢ -1ᵉ , 4 -1!6ᵉ '0ᶠ -0!@1ˢ ' ,1ˢ . : :!1ˢ 06ᵉ 04 "8ᶠ , -'0.*ˢ 2ᵉ" ' ,1.1ˢ +"-ˢ 80ᶠ .17 08ᵍ 06ᵉ 5, !0!07 ("!ᶠ .1-1". (,ˢ ' , "ᵉ" ,1ˢ , ":ˢ !16ᵉ" 28@ - '1 :ˢ? "8 :ˢ +, "ᵉ" '"D1-ˢ 5!"(1ˢ -0ᶠ 6.19218'!*/ 4 "*ᵉ 51. , "5-ˢ 8ᵍ ', -ˢ 8-'"8(1ˢ , "@1ˢ , "55181 :ˢ '0ᶠ , 4 ˢ 8ᵍ "ˢ 4"--ˢ 06ᵉ 2''1.ˢ (0862G - 08/ "ˢ - 87!1ˢ -50'/ +, (,ˢ 0' ,1.-ˢ , "@1ˢ 0@1.!00Da/ + !ᶠ 06'18ᵍ -'. D1ˢ "8ᵍ 0)-1.@ 87ᶠ 1*1ˢ?) 2ᵉ" 80ᶠ : -' 8("ᵉ (08-(02-81--ˢ 06ᵉ "ᵉ -ˢ .1'" 81 :/)1G ("2-1ˢ "ᵉ -ˢ 08!*ᵉ "8ᵍ 8-2!"'1:ˢ 6."7418' ˢ "ˢ .1(2.-ˢ '0ᶠ ' ,1ˢ 4140.*/ +, 18ᶠ "8*' , 87ᶠ 1!-1ˢ (0881('1:ˢ + ' ,ˢ "ᵉ -ˢ 41ᵉ" + ',ˢ?) 2ᵉ" "ᵉ -ˢ 06'18ᶠ 08!*ᵉ '" '."8- 18ᵉ" ! 7, '/ +, (,ˢ 6"!!-ˢ 2508ᵍ ' ,1ˢ :".D81--ˢ3 "8 :ˢ 1@18ᶠ ,1ˢ 08ᵍ +, 04ˢ "ˢ , "-ˢ -, 081ˢ 60.71'-ˢ +, "ᵉ" ᵉ .1@1"!1 :ˢ '0ᶠ , 4

B

' 'G '56499'@)3 4 @3)'3;3 +2 ' +3 2*/'3* ')2(G '*
+3' ' 4 '<'*2) :4 5 964E3 4: #252 2 7j 2G +3 :2 +3 ' 4:
' 2 R7'*'79' 7 ' 4)(@'7G 579 '+2;3 :47*? +'G 9 4 ('
2) 32?(' 3A 2* ' '* +3 452* * * J . $ 2*? 63 +26G ' '
2)94 4//7 3? '* * *'7G$ *2(' 3;3* '* +3)2 3 ' :4 5G
2997537 @(' +3 4)? 6435 ' =+3* +3 2)39 4: `46(7G
2*? 3 '2*?3 ' =3 3 =4;3* '* 4 ' ' 7/+)2(9 ' 3;3* '*
+3 +2*?9 4:)32 *3? @2 ?9 ' 2 3 6^ 63 72))(' 2) 3 '*< +3' '
:32 7 39 ' 9+': '*< 2*? /+2*<'*< 7* ') +3(' ;2*'9+ 2=2(
+3* (693)79 ' +3 4' 96 '*< 4: 2 52 '2<3 4: ?'9C
62 2<353* ' 7*' '*< =' + +3 /4554*G +2? 4;3 + 4=*
+3 4)'<2 /+(' 2 ' 4 '* + ' 2*? =2G 2E'*< ;3*<32*/3 4*
+3 63 94*G =+4 +2? 2'53? 2 ' +'G):3 ' 52*(' 4: +3 24B
/+'2?9 :)3?' 254*< +3 39 ' #252 2 79 ' 4553 /3 +2?
4 ' @33' 39 3353? ?'9 367 2@)3 254*< +3 4 '* +'2*
4@')' (G 29 2 53 /+2 ' #252 2 79 +2? :4 53? '39 4:
: '3*?9+'6 2 ' 2 R7'*''G +3 93)3? +3 3 ' 3 @ 47<+ '
< 32 ' =32) +' =' +' +'5'G +3 9/7)6 4 G 7/+' '2*? 7< 25B
579 ' 2*?)346+2* 7G +3 62'* 3 IZ.' 2//4562*'3? +'5G
2*? 2)4*< =' +' +3 :'*3 2 G 4: 33/3 +3 27<+ ' +3
79/2*G 2)6+2@3 '/2) = ' '*<I I ' 3*47*/'*< +'G *2 ';3
/47* (' :4 ' 3;3 ' +3 44E 2* 79/2* =':3 ' 2*? 4 +3
94*G =+45 9+3 @2 3 +'5 '<2;3 +3 *2539 2*? 3?7/2 '4*
4:' +3' ' 4=*')2*?' 4<3 +3 ' =' + +3 3:'*353* G 4:
33/3 ' *3 9 4 (' 36 393* G +'5' 2G +2;'*< 4@ 5*3?

+3' <4;3 *53*' 4:' 2 R7'*''. I I ' 7 ' +3 3' '9' 54 3' 2/0
/4 ?2*/3' =' +' +3' /79 459' 2*?')2=9' 4:' 7 '2' '*' +3'
4 +3 ' +2 ' +'9' 94*' 7/754 ' +2;'*<' @(' +'9' 3)?3 ' @ 4 +3 09'
32)(' ?32 +' @3/453' 94)3' +3' ' 4:' +'9' :2 +3 09' '/+39' 2*?'
@3'*<' 7 <3?' @(' +'9' ='3' 2*2R7') ' =+4' =29' '*' '2 3?' '*'
+3' *2 '4*2)' 2 ' 4:' 32?'*<' +3' :7 7 3 ' 394);3?' 4*' 35'0
< 2 '*<' 4' 453 ' @3/2793' 3;3 (' 2;3*73' 4' +4*47 9' =29'
/)493?' 2<2'*9 ' 9 2*<3 9' 254*<' +3' 79/2*9 ' 3 ' 3A0
63/ 2 '4*9' =3 3' /4*:' 53?' @(' 2*' 27<7 (' +3*' +3('
=3 3')44E'*<' : 45' +3' 46' 4:' +3' 2*'/7)75' 764*' +3'
452*' +'))9' @3:4 3' +35 ' +3' 2;3)3 09' @4**3 ' =29' /2 '3?'
2=2(' @(' 2*' 32<)3' '* 4' +3' 2' 6 @7 ' 944*' +3' @' ?' 9 446 '
2<2'*' 2*?' 36)2/3?' ' ' 4*' +'9' +32?' ' 453' 7/754'
=29' =3)/453?' 3'*<' 2?5' 3?' =' +' +'9' :25')(' 4' +3'
'<+ 9' 4:' /' 'H3*9+'6' +3' /+2*<3?' +'9' *253' '* 4' 7/'79'
2 R7'*'79' 4' =+'/+' ';(' 2??9')' '9' /47 2<3 '
+3' 96)3*?47 ' =' +' =+'/+' +3')';3?' +'9')'@3 2)' (' 2*?'
6 7?3*/3' <2'*3?' +'5' +3' :2;47 ' 4:' +3' E'*<' 2*?' 4:' +3'
6346)3' +3' :4 53 ' 2664'* 3?' +'5' <72 ?'2*' 4' +'9' 94*90
=+3*' +3' + 4*3' @3/253' ;2/2* ' +3' 93*2 3' 2*?' /' 'H3*9'
2'93?' +'5' 4' ' ' =' +' 4*3' 2//4 ?

:' +3' =2 9' 29/ '@3?' 4' ' 2 R7'*'79' #'4*(9'79'
2?46 '*<' +3' :4 <3 '39' 4:' ;3 (' 3/3* ' 2**2)'9 9' +29' <';3*'
2*' '* 4)3 2@)3' *3=96263 ' 2//47* ' %4 ' +3' 67 64939' 4:'
+'9' =4 E' 3;3*' ';(09' ?'<*':'3?' @ 3;' (' <439' 44' 57/+'
'* 4' ?3 2')0 2*?' ' ' =47)?' @3' 2) 4<3 +3 ' 2 ' ;2 '2*/3' =' +'
+35 ' 4' 9 46' 2*?' 64'* ' 47 ' +4=' +3' =4' +'9 4 '2*9' /4*0
2?'/ ' 32/+' 4 +3 ' 29' 4' +3' 4 ?3 ' 4:' +393' =2 9' 2*?'
+3' ' 3;3* 9' //4 ?'*<' 4' ';(' ' ' =29' @(' +3' 2 '*9'
2*?' 2@'*39' +2 ' +3' < 4='*<' 64=3 ' 4:' 453' =29' 4@9 '0
*2 3)(' @7 ' 7*97//399:7))(' 39'9 3?' 6'4)93 ' 2' 4=*' ?30
9 4(3?' @(' 2 R7'*'79' @3)4*<3?' 4' +3' 2 '*90' 9' ;U32) +'
=29' 97/+' +2 ' +3' @44 (' 3*2@)3?' +'5' 4' 3A+'@' ' 54 3'
96)3*?'?' <2539' +2*' +3' /' (' +2?' (3 ' 933*' 4 *'/7B'
)75' 44' =29' ?354)'9+ 0 2*?' 453* 75 ' 4<3 +3 ' =' +

53 '4)2 253*2 79 753 '75 .' %'/7)32 3?7 '2 6)2/39 =+'/+ 579 +2;3 5*@3 =33* 453* 75 79/7B)75 2*? +3 =2))9 4: 453 97@5' 3? 4 +3 ?45'*'4* 4: +g 452*9 *3 4 =4 4: +393 4=*9 2 3 *3;3 53* '4*3? 2: 3 =2 ? +3 2@'*39 +2? 2?;2*/3? =' + 2 < 32 :4 /3 4 +3 ;3 (<2 39 4: 453G +3 452* +4 93 ? 4;3 +35 @2/E +3' /256 =29 4* +3)3: @2*E 4: +3 *'4 G 2 R7'*'79 93 :' 3 4 +3' @ '?<3 @(@7 *'*< 2: 9 2*? 2**'+')2 3? +3' 2 5(3;3 2) 2?' '4*9 2 3 /4**3/ 3? =' + +'9 =2 $ +3 ;4= 4: +3 26' 4) 2*? +3 '*9 ' 7 '4* 4: 4 *253* 9 :4 @4(9 4: *4C @)3 @' + +3 E'*<09 94* 2)2? 4: :47 33* =29 '*C ;39 3? @(' +'5 =' + 2 <4)?3* # 2*? 2 67 6)3B@4 ?3 3? 4@3 :4 +2;'*< 9)2'* 4*3 4: +3 :43

+3 =2 '* =+'/+ +3 R7'2::3 '* 2: 3 '539 +3 '*?3:2 '<2@)3 3*35'39 4: 453 2*? +3* 2) 32?(2 < 32 2*? :4 5'?2@)3 6346)3 I =3 3 97@?73? @(2 R7'*'79 '9 3:3 3? @(';(4 +3 93/4*? E'*< 4: +2 *253 I J #'4*(9'79 92(9 *4 +'*< 4: +'9 R72 3 * +3 4 +3 +2*? +3 <';39 2 5'*7 3 2//47* +4= :';3 4: +3 3C 54 3 < 32 79/2* /' '39 =3 3 '*?7/3? 4 93*?' 2'? =+'/+ 6 4;3? '*2?3R72 3 4 +3 2 '*9$ 2*? +4= 2: 3 C =2 ? =+3* +3 2@'*39 +2? 52?3 2 7/3 :4 93;3 2) (32 9 2) +3 =3);3 /' '39 4 +3 947 + 4: +3 63*C *'*39 7*' 3? +3' :4 /39 2<2'*9 453 @7 2: 3)49'*< 2@2)3 2 3 75 97@5' 3? 4 E'*< 2 R7'*'79 29 +3' 976 353 +32?' 2*? ?'? +452<3 4 +'5' @(6 393* '*< +'5' =' + +3 @2?<39 4: 4(2) (+3 96)3*?47 4: =+'/+

'' -' ,'.:' '0 28:1.-'"8:' ,0+' ',1 04"8-' "8:' ") 81-' (02!:' (041 8 ,0-' !1 (08'"('/ -0 !087 "-' ',1-1 (' 1-' !* 87)1'+118 ',14 (08' 821:' 8:1518:18'

K (1.0/ :1 1 5 !! ' '.")0/ @ 5 '"? 2'0@0 *.' ' $25 .4 .A 0 .'\Z.' ^ 8 (: 8 ',)' -"41 5!"(1 ,1 ("!!-' 5 0!K '" 0!-("8 '0+8

V 1 '.1"'-' 8:11:' "-' '" 4"''1.' 06 ! ''!1 450.'"8(1? 5"(14 (24 (9 0.24 718'1 61(" i

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3**4@)3?+'9 '756+$\I //4 ?'*< 4 +'9 9 4 (' '* +3 3;3*'*< 4:+'9 ?2(9 +3 =29 +3 2/E*4=)3?<3? 94;3 2'* 4:+3 79/2*9' +3 2 '*9' 2*? +3 2@'*39' :+'9 ;29' 3A 3* ' 4:+'9 ?45'*'4*9 *4 +'*< '9 92'? @(' '/3 4 4 ' @(' ';(G +3 4*)(' 3A 2* ' 2 '*= ' 3 ' =+4 9632E9 4:' ' '9 %)4 79' +79 57/+ +4=3;3 ' '9 3/4<*'H3? @(' 2))' +2 ' +3 64=3 ' 4:' 453 7*?3 ' '9/79 493 :2 ' 2@4;3 =+2 ' ' +2? 3;3 ' @33* @3:4 3

'9 ;'/ 4 (' '* +3 2@'*3 =2 ' =29 4='*< 4 +'9 +2;'*< ?47@)3? +3 *75@3 ' 4:+3 /2;2) (' *' /4*:4 5' (' 4 +'9 53297 3' +3 E'*< ='9+' 4 ?47@)3 +3 *75@3 ' 4:+3 3R739 '2* /3* 7 '39' 2*? 4 *253 +3 + 33 *3=' 4*39 2: 3 ' +'593):2*? =4 4:+'9 : '3*?9' '9 6)2* =29 46C 6493? @(' +3 27<7 ' 79 2;'79$ =+4 36 393* 3? +2 ' 457)79 +2? 2/ 3? 7*?3 ' +3 92*/ '4* 4:+3 2796'/39 '* 3<7)2 '*< +3 ?'9 '@7 '4* 4:+3 E*'<+ 9' 2*? +2 ' *4C +'*< @7 ' +3 /4*93* ' 4:+3 2796'/39 /47)? =2 2* ' 2 /+2*<3' 79 =29 2 2@'*3 @(' ?39/3* G +3 <': ' 4:' 4@93 ;'*< 2*? '* 3 6 3 '*< 27<7 '39 =29 +3 3*?4=53* ' 4:+'9 /47* (53*' ;3* 29 2 @4('+3 +2? 6 2/ '9 ' +3 2 ' =' +47' 2*(' '*9 7/ '4*$ 2*? 2: 3 =2 ?' 4* @3'*< 27<+ ' +3 2/R7' 3? +3 < 32 39' 529 3 (' '* ' ' +2 ' 2*(' 6 '39' 3;3 ' 2 2'*3? 4JE *' 2))')'E3)'+44? +3 @44E9 *4=' 3A 2* ' =4 ? +'9 4@,3/ '4*9)399 63 356 4 ')(' +2* +3 4 '<'*2)')3<3*?$ '* =+'/+ +3 6 4@2@)(' ?3/)2 3? +2 ' +3 2796'/39 :4 @2? 2*(' /+2*<3' 2 R7'*'79' 4 9+253 +3 27<7 9' 4 ' :4 ' +'9 4=*' 92 '9:2/ '4*' 29 43979

= '' 7 7C$?I' L7 '$ C+?I' $ =7 ' = ?K' ' 2+'' +%$F 7% =I' $C7 $C =7 &' +?'' 2=$'7 C$?&C7? '' $? + ? 7F 7'7? + $?'' $ ' &CF=+' F $ 7'' $?'

$?I' &'' '+I' ' =7 %% ?$' H7 $?K $ =7 $ 7K7 $ ' +&K& ' ' = '' '' +? 7 7 7? 7' 2= =' = '' ?K7?& I' $ ' =+' $ ' '$C7 $?7 H7 $ 7 = C' % 72' H7 +&'7 =7 +&K& '' 27 7 F+ +?' ' +?% &'' ? = '' H$IM =$$% =+% 7?%7% = '' + =7 '' '2 ?7' +'' ' +' F$$ ' F+ +? $& % =+ 7 % 'F7?' ' 2 =' =7 =$&'7=$ % '7 7'' $ ' = '' = % 7?' ' '' & 7 I' ? $? 7 +H 7 =+' =7 +? 7?' 7K7?% '=$& % =+ 7 7F 7'7? 7% =7 C$' ' 7?$2?7% $ ' + ' +&K& '' +'' +' ' +?K7 ' $ =7 $ 7K7

67 ' +3 ;3 2/' (' 4:' +3 4 2/)39 4 +3 6 44:' /45 52*?3? +'5' 4 ?';'*3 =+3 +3 ' =+2 ' +3 =29 +'*E'*< 4:' 2 ' +2 ' 5453* ' =3 3 6499'@)3 4 ' *4 ' +3*' 79 +2? 4@93 ;3? +3 +32;3*9 ' 2*? ?3/)2 3? +2 ' +3 4@,3/ ' 4:' +3 E'*<0 +47<+ 9 =29:329'@)3 ' 2 R7'*'79 +3)? 47 ' 2 =+3 9 4*3 ' 2*? 2 2H4 ' 4 96)' ' ' =' + .' ! '3 27<7 ' 9 2'<+ =2(' ?'? 94 ' +3 =+3 9 4*3 2*? 2H4 ' =3 3 6 393 ;3? '*' +3 4B 5' '75' 7*?3 ' 2*' 2) 2 6 @39'?3 +35 ' 4*' +3 9 369 4:' +3 93*2 3B+4793 ' 9 44? +3 9 2 73 4:' 79 ' 2 6 '39 ' =' +' +'9 +32? 57::)3?

&'3)?'*< 4 +'9 453* ' +3 E'*< 2@2*?4*3? +3 9/+353 4:' 39 2@)'9+'*< 2*(' *3=' /3* 7 '39 ' 7 ' 4 32/+' 4:' +493 39 2@)'9+ ' @(' 457)79 3 2994/'2 3? 2 93/4*? 7*?3 ' +3 9253 *2536 94 +2 ' : 45' +'9 '53 :4 =2 ? +3 3 =3 3 +3 :' 9 ' 2*? 93/4*? 25*39 ' ')39 ' 2*? 7/3 39 ' +3 = ' 3 9 =+4 9 2 3 +2 ' +3 3R739 '2*' 4 ?3 ' =29 '*/ 329 ' 4 =3);3 +7*? 3?' 2E3 2 /3* 7 (' :4 ' 2 +7*? 3? +4 93 53*' 2*? 9766493 +2 ' +3 9'A /3* 7 '39 =3 3 :7 +3 ' ?47@)3? @(' +3 9253 E'*< 2: 3 ' +3 J R7'2*' =2 IJ' +3 :2/ ' =+'/+' +3(' +2? '*' ;'3=' +4=3;3 ' =29 *4 +'*< @7 ' +3 7*'4*' =' +' 2*' 3R72)' *75@3 ' 4:' 2 '*' /2;2) (' '*')'3 :'3)?')'E3 +2 '@3 =33*' +3 '*:2* (' 4:' +3 =4 *2 '4*9 +2 ' +29 52?3 +3 *253 4:' 2 R7'*'79 3;3 ' 5354 2@)3 ' '9 +2 ' =' +' +'5' @3<'*9 +3 < 32 *399 2*? +3 96)3*?47 ' 4:' +3 /' (' *' 549 ' '*9 2*/39 +3)3<3*?9 :)7/ 72 3 '*' 29/ '@'*< 2 =4 E 4 ' 2*' 3A6)4' J' 9453 4 +'5 ' 9453 4 +'9 94*' 7 ' +3 ;27) 3? 93=3 9 @(' =+'/+' +3 "3)2@ 75 ' +3 %4 759 ' +3 /47* (' ?4=*' 4 +3)4=3

, -' ', .0+-' ! 7, '' 08 '' @1.*' 0)-(2.1 5"--"71 06 (1.0/ :1 1 5 ' ? H. 0.)2-' 192 '24 5".') -' -1(28: -' ": : ' -' "(' ((' 61(' h92 'h-/ 8241.24921 :25 ("@ ' 50 -'92" 8 ,1!!0 1920-' -2)17 ' ' @*'0,"-' 4 -28:1.-'00:' ',1 6"("? *1' 8 , 4 '00 ',1 '.21 .1": 87 -' / 80' ? -11 "' 08 ',1 5"--"71 06 (1.0 0.' ',1.1 -' ! ''!1 : 661.18(1)1'+118 ' "8:' ' 1-51("!!*' 8 ',1 28("!' (,"."('1./ 06 +, (,' '' -51(418 -' 7 @18 8 ',1 5!"'1 '0 4*' 1: ' 08 06 (1.0J-' 6."7418'-/ 8 ' '3 "8:' ',1*' +02!:')1 51.51'2"!!*' 4 -'"D18 60.' 1"(,' 0',1./)2' ', "' :' -' '' (08-08"8'/ I2:(((' 8 ',1 !0.18' 81 4"826 -(. 5' (041-' 6.04 ' ' ' ((#/ "-' ' -'"8:-' 8 (1.0

m % ' '

7@7 2' 2*?' +3' ;2))3(' 4:' +3' ' /79' ')' +3*' 9=2569' 2*?')2E39' 4' @2(9' '*' +3' @3?' 4:' @3' ';3 ' =3 3' ? 2'*3?' 2 3' '*' 549' 4:' +35' /2))3?' +3' =4 E' 4:' +3' 3)?3 ' E'*<G' 2*?' /476)3?' =' +' +'9' 7*?3 2E'*<' *'79' +2;3' @33*' +2 ' 4:' 35@2*E'*<' +3' '@3 ' *' +3' ;2))3(' +79' <2'*3?' @3 =33*' +3' 2*/'3* ' 4J;*' 4:' 452' 2*?' +3' 2 63'2*' +'))' +3' 2))4 3?' 2' 962/3' :4 ' 2' 52 E3 ' 2*?' :4 ' +3' 533 C '*<9' 4:' +3' 6346)3' @7')' 64 '/439' 47*?' ' ' 2*?' <2;3' < 47*?' 4' +493' J=+4' ='9+' ' 4' 93 ' 76' @44 +9' 2*?' 9+469' +3 3' 3 ='A ' +3' 2)2 '*3' 2*?' +3' ;3* '*3' +3' 532?4=' 3?3353?' : 45' +3' =2 3 ' =29')3;3)3?' 2*?' /4*C ;3 3?' '* 4' 2' 2/3/47 93' 2/+' /7 (' +2?' 2' 6)2/3' +3 3' 299'<*3?' 4' ' ' =+3 3' +3' 93*2 4 9' 2*?' E*'<+ 9' 3 3/ 3?' 9/2::4)?9' 4' ;'3=' +3' <2539' : 45 I IJ$ 2*?' =+3 3' +3(' =47)?' 2)94' 52E3' 445' :4 ' +3' ' /)'3* 9' 3' 97 47*?3?' +3' /' (' =' +' 2' =2))' 4:' +3=2' 9 4*3' 2: 3 ' +3' 79/2*' 52**3 ' 4 ' 2 ')329 ' 52?3' 6 362 2 '4*9' :4 ' ?4'*<' 94I.')'3' @7')?'*<' 4:' +3' 26' 4)'*3' 356)3' : 45' +3' ;3 (' :47*?2 '4*' '9' 29/ '@3?' @(' +3' 32)'3 ' *2 2 ';39' 4' +3')29 ' E'*<C 4' +3' :2 +3 ' +3(' 4*)(' 2 '@7 3' +3' ;4=' *?' 94' 579' 3;3 (' 4*3' =+4' 933E9' :4 ' /4**3A'4*' 4 ' :2*/'39' +3' '9' ?32)'*<' =' +' +'9 4 (' '*')2(9' 2*?')3<3*?9C 3)93' +3' @7')?'*<' =47)?' +2;3' 39 3?' :4 ' 2' *75@3 ' 4:' (32 9' ?7 '*<' +3' =+4)3' 3'<*' 4:' 3 ;'79' 7))'79

+393' =4 E9' ';2)'*<' +3' < 32 39' 4:' +3' 79/2*' /2*' *3;3 ' +2;3' @33*' 2//456)'9+' =' +47' 466 399';3' 29E=4 E' 2*(' 54 3' +2*' +493' 4:' +3' +2 24+9' 4' 4C)454*09' 4' /+33 ' +'9' 6346)3' ?7 '*<' +3' ' +2 ?' 93 C ;'/3' +3' E'*<' '*9 ' 7 3?' <2539$ =+'/+' : 45' +'9' '53' :4 =2 ?' =3 3' /3)3@ 2 3?' 2**72))(' '*' 36 35@3 ' 7*?3 ' +3' *253' 4:' +3' 452*' 4 ' 32' 2539' :' +3

0('" : @ -'" 5"'.)2-' 192 ')2-921/ -"*-' @*/ ' '? 14 ' % ' ' - ' " $ 508F% F+ ' " @%2' D ' ' " ' ' 08*- 2-/ 8 ' N ' ,1*' ".1')0',' .1!"' 87',1' -"41',87

08*- 2-/ 8 ' NB/ -"*-' " = @*/ ' / -' ,1' '.": ' 08/ @1' 4"*')1' -2.1/ +"-' 80" ',2-' ("2' 02-' ,1' .1"-08' +, (,' 4": 1' ',1' , -'0. "8-' -0/ -' (!1".' 18027,'3 ',1' +"!! 4:' 3 ;'79

/4* 39 9' =+'/+' ? 3=' +3' 33E9' 4' D4*6'2' *4*3' @7' +3' /+2 '4 2/3' 2*?' @4A'*<' =3 3' 6 2/ '9' @(' +3' 79C /2*9' +3' 963/ 2/)3' 25793?' +3' 6346)3' 4:' 2)(G' @7' +3' /4* 39 9' =3 3' +3' @79'*399' 4:' +' 3)'*<9' 4 ' 9)2;39' :' 2' /' 'H3*' 3*<2<3?' '*' +35 ' '*9 32?' 4:' @3'*<' '554 C 2)'H3?' @(' 9/7)6 7 3' 4 ' '*' 94*<' 2*?' 4:' @3/45'*<' +3' 6 '?3' 4:' +'9' :25')(' +3' :4 :3' 3?' +'9' +4*47 ' 2*?' +'9' : 2*C /+'93' +3' /+2 '4 33 ' 2*?' +3' 6)2(3 ' =3 3' '*' *4' +'<+3 ' 39 335' +2*' +3' <)2?'2 4 ' 4 ' +2 ' +3' 452*9' /)7*<' 4' +3' ' 963/ 2/)39' 4:' 2)' E'*?9' =' +')399' 2;'?' (' +2*' +3' 33E9' :' +4=3;3 ')'E3' +3' 33E9' +3(' /47)?' +2;3' +4*47 3?' +3' 4@,3/ ' =+'/+' 3A/' 3?' +3' ' 6299'4*9' +3(' =47)?' *4 ' +2;3' 7*' '* 4' +2 ' 3A 2;2<2* ' :7 (' =+'/+' 3;3*' '*' 32)(' '539' 52??3*3?' +3' :2/ '4*9' 4:' +3' /' /79' '*' @3+2):' 4:' +3' ' ?396'/2@)3' :2;4 ' 39' 7 ' +3' /+2 '4 B' 2/3' =29' *4 ' +3' 4*)(' 25793 5 3* ' 2 ' +3' ' /3*9'2G' +3 3' =3 3' 2)94' +3' 6 4/399'4*9' +3' '52<39' 4:' +3' <4?9' @4 *3' 2)4*<' '*' E'*?)(' 4@39' +3' 2 53?' @4(9' +3' =2 B?2*/39' 2*?' +3')7?'/ 479' '5' 2 '4*9' 4:' +35'. ' +3' ' 39' 4:' 3C)'<'4*' 44' =+'/+' '))' +3*' +2?' @33*' 6)2'*' 2*?' 9'56)3' =3 3' /)4 +3?' =' +' 96)3*?47 ' ;5?3 ' 2 R7'*'79' *' +'9' 3'<*' @)44?(' 92/ ':'/39' 2 3' 92'?' 4' +2;3' @33*' '* 4?7/3?' 2*?' 2?4 2 '4*' 4' +2;3' @33*' :' 9' 62'?' 4' 36 393* 2 '4*9' 4:' +3' <4?9' 7*?3 ' +752*' :4 59

+3' 5354 ('4:' +'9' E'*<' =29' +4*47 3?' 2*?' /3)3@ 2 3?' @(' +3' ?39/3*?2* 9' 4:' +493' =+4' +2?' 9'<+3?' 7*?3 ' +'9' +32;('(4E3' 2(' +3' 97::3 '*<9' +3593);39' =3 3' '567 3?' 4' +'9' ?3 39 3?' 94*$' +47<+' *3' +3 ' +3' %4 75' *4 ' +3' ' /79' /47)?' @3')2'?' 47 ' 7* ')' +3' < 32 ' 93=3 9' +2?' @33*' @7') ' ')' 54 3' :2;47 ' =29' 9+3=*' @(' 2: 3 B2<39' 4' 2'2' 23/')'2' +3' =':3' =+45' 2*4 +3 ')3<3*?' <';39' +'5' '*9 32?' 4:' +3' 79/2*' 2*2R7')' +3' 452*' @ '?39' 3;3 3*/3?' +3 ' 29' 2' @3*3:'/3* ' 3*/+2* 399' 2*?' 2*' '*?79 '479

_' $?I' &'' @ ' B

<<' =7' 2$ 7'+' C+K ' K % 7B =7? 7' F7 '$?'' ?' K 7+' F7 ' $$L' ?K'' $C' =7' K % 7' $ '=7 '' ' + &7' ?' 7 7CF 7' $ ' +? &'' 7' &'' ' +7% +

+4793=':3 ?')'<3* 2 +3)445'!\J$,79 29 +3 <44? ?2(9 4: w733* 3 +2 2*? +3 96'**'*<=:233) 2 3 9 ')) +3)? '* 3535@ 2*/3 254*< +3 3 52*9

//4 ?'*< 4 +3 2@)39 4: +3 64* '::9 2 R7'*'79 +2? 3'<*3? +' (B3'<+ (32 9 =+3* +'9 <)4 '479):3 =29 3 5'*2 3? @(' 299299'*2 '4* +3 94*9 4: */79 2 /'79 +2?)4*<)44E 764* +'5 29 2* 3*35 (' 2*? 797 63 =+493 ?32 + =47)? 2::4 ? +35 2* 4664 7*' (' 4: 547* '*< +3 + 4*3 +3(' =3 3 *4 R7'3 3? @(' 933'*< +2 +3 E'*< =29 54 3 +2* 3'<+ (' (32 9 4)?G :4 +3 3 =29 *4 ?47+ +2 ': +3 =29 '* 6499399'4* 4: +'9 /4*9/'479*399 2 +3 266 42/+ 4: ?32 + +3 =47)? 93/7 3 +3 97//399'4* 4 +'9 94*B'*B)2= 3 ;'79 7))'79 +'9 4=* :2;4 ' 3 2*? +3 ?2 C)'*< 4: +3 =+4)3 6346)3 *' +493 ?2(9 6 '*/39 9 ')) 2/ 3? ' ,7?<39 3963/'2))(' '* @ 32/+39 4: +3 632/3 :4 2*(' 4: +3' 97@,3/ 9 =+4 +2? 3/47 93 4 +3' 62 3 *2) 27 +4C ' (' *?3 2 6 3 3A 4: +'9 E'*? =4 57 ?3 3 9 +' 3? @(' +3 2 /'" <2'*3? 2?5'99'4*' '* 4 +3 E'*<0 /+25@3 2*? <2;3 +'5 2 ?32?)(' =47*?

+3 +' +' 4: 3 ;'79 7))'79 =29 29 52 ;3))479 29 ' =29 +75+)3 / '9'2 2 +2*?52'? 4: +3 R733*09 2*? 4*3 4: +3 /26 ';39 2E3* 2 4 *'/7)75 =29 @ '*<'*< 9453 /2E39 29 26 4::3 '*< 4 +3 +4793+4)? <3*'79 =+3* 9+3 92= 2* 2662 ''4* 4: +3 <4? '* +3 :' 3 4* +3 +32 + 2*2R7') /45 52*?3? +3 4 ? 399 +3 93): 29 2 @ '?3 2*? 4 9+7 +3 93): 76 '* +3 /+263) +3 @3C /253 6 3<*2* @(' 2 <4?G 52*(' 4: +3 452*9 92'? +2 +3 +4793+4)? <3*'79 =29 +3 :2 +3 4: 3 ;'79$ 4+39 +2 ' ' =29 "7)/2* +3 :4 53 97664 3? +3' 46'*'4* @(' +3 :39 ';2)!=+'/+ 3 ;'79 39 2@)'9+ ' '* +4*47 4: +3 2 39$ +3)2 3 @(' +3 ?3)';3 2*/3 =+'/+ +3 <4? 4: :' 3 ;47/+92:3? 4 +'9 9 2 73

$H&"%7 ?$C ? H&' F / ? P$ =$ 7% & : ?K : + & + = O&+7' $C (((F B / C+L7" =7 2 7 $ + '$? $ + N& &'

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7/+)3<3*?9 2 3 2)=2(9 :2 4)?3 +2* +493 =+'/+ +2;3 2 +'9 4 '/2) 2' : +3)2 3 E'*? =4 ;3 (?'::3 C 3* 4*39 @3/253 /7 3* 4* +3 ?39/3* 4: 3 ;'79 /C /4 ?'*< 4 ')3 4*3lll +'9 54 +3 =29 2 +2*?52'? : 45 2 R7'*'' +'9 :2 +3 4*3 4: +3 E'*<09 /)'3* 9 +3 +'5C 93): '* +'9 /+')?+44? 2 9)2;3 +3 4 +3 +2? 2 54 3 ?'<*':'3? 2' 2*? =29 /27<+ 2 @(#'4*(9'79 9 2 3? +2 2 4 *'/7)75 4*3 4: +3 2 '* 4=*9 4 +3 *4 + 4: +3 *'4 ?=3) 2 52* 4: 6 '*/3)(@' + =+4)'E3C ='93 @4 3 +3 *253 4: 3 ;'79 7))'79$ +2 2 +3 2EC '*< 4: +'9 *2 ';3 /' (+3 =29 9)2'* 2)4*< =' + 2)) ' 9 ?3:3*?3 9$ @7 +2 +'9 ='?4= +3* :2 2?;2*/3? '* +3 6 3<*2*/(=29 /2 '3? 2=2(=' + +3 4 +3 /26 ';39 4 4 5 3$ =+3 3 9+3 =29 299'<*3? 4 +3 R733* 4* 2//47* 4: +3 '))79 '479 2*E =29 32 3? =' + +4*47 2*? =29 ?3)';3 3? 4: 2 @4(

3 ?2(29 +3 /+')? =29 9)336'< '* +3 64 /+ 4: +3 4(2) 62)2/3 +'9 +32? 4 +3 3 47 4: +3 @3+4)?3 9 =29 933* <' =' + :)2539l l +3 R733* 2*2R7') :4 C @2? +3' @3'*< 3A '*<7'9+ G :4 +3 79/2* 6 46+3 399 334<*'H3? +3 96' ' 4: +'9 :2 +3 2*? :4 392= +2 +3 @4(=29 /2))3? 4 < 32 +'*<9 +3* +3 2=4E3 +3 2662 ' '4* +2? ;2*'9+ % 45 +2 '53$J:4 =2 ? +3 =29 @ 3? 76 29 +3 E'*<09 4=* /+')? 2*? =' + +3 +'<+39 +4639 4 '* 54 3 2?;2*/3?)':3 ?'? +3 3;3 /3293 ! 4 +4)? '* '52 3 /45 57*'4* =' + +3 +'<+3 64=3 9)'3 <4??399 %4 7*3)4;3? +'5G 9+3 /456 39 +3 3A 3539 4: +3 356' 3 =' +'* +'9)':3 @' + '* +3 :4 5 4: 2 93 C ;2* +3 6499399'4* 4: 94;3 2'* 64=3 =' + =4 +'*399

? 7 $ %7 7 F 4 * 7 ?' ?&+ $? =+ 7 &' 2+' F $H+H l +'H+' + % $ =7 L ?K ' ' +? ?' +? 7 =$267 7? =7 K 7+ 7' C ?% C+l H7 H7 +I7% ? $ +' l +H'& % l

V ((0.: 87 '0 "!1. 2- 8' "- , -,"55181: !"'1 8 , - ! 61/ +,18 ,1 ,": 6"!!18 "-!115 "6'1. -0..0+ 87 !087 60. ', 1 :1"', 06 , - + 61 C17"8 "? H!2'". (,/ :1 0. ' 04"8/ 5 (, - C17"8 '" 8-'1": 06 ".92 8 "/ "8: ""(! " 8-'1": 06 "8"92 !/ 4"* 50--)!*)1 , -'0. ("! 51.-08"71-

4 =')3)? ' 2*? :'*2))(2* 7*53 '3? / 73) ?32 + +3 ;'9' 3? +'5 93/ 3)(29 +'9 964793 Z @7 7*?3 +3 /4*C ?' '4* +2 +3 9+47)? /4;3 +'9 :2/3 2*? *3;3)44E 764* +3 ;3 (2*/'3* <') =44?3* 9 2 73 4: +3 E'*< +3 :2/3 4: =+'/+ =29 E36 /4;3 3? 4;3 '*)'E3 52**3 =29 93 76 '* +3 356)3 +3 3 3/ 3? 4 +'9 <4?C ?399 +3 356)3 =29 4*/3 /4*97 53? @(' :' 3C @7 +3 9 2 73 352'*3? 7*'*,7 3? @3/2793 3 ;'79 =29 96 7*< 47 4: +3 :)2539

' +'9 32)((32 9 +3 /' (2? 2 5(:47*? +'5 +3 @ 2;39 2*? @39 4: +3 452*' (47 + @2)3 +2? =3))B *'<+ @33*')49 C +3 + 3= +3 9 2*?2 ? '* 4 +3 5'?9 4: +3 3*35 (09 2*E9 2*? +79 47937? +'9 94)?'3 9 4 <2'* +3 ;'/ 4 (3 +32?3? +^ 2 5'39 4: +3 2<3? E'*< =' + <)4 (2*? =29 3=2 ?3? =' + +3 +2*? 4: +'9 ?27<+ 3 '9 :2 +3 B'*B)2=' 3* 79 3? +'5 =' + +3 3AC 3 /'93 4: +3 <4;3 *53* $ 2*? =+3*' 2 R7'*'79 @3/253 ;3 (4)?' 3 ;'79 =29 3*2@)3? 4)'<+ 3*' +3 (4E3 =+'/+ 6 39 4*' +'9 97@,3/ 9' 4 +2 +3(' 3,4'/3?' =+3*' @(' 2*'2 ':'/3 : 3R73*)(' 6 2/ '9 '*' +3 29 ' ' =29 2**47*/3? +2 +3 E'*<09 =47*? =29 *4 ?2*<3 479$ 2*? +2 :4 +3 6 393* +3 +2? 2664'* 3? 3 ;'79 4 <4;3 *' '*' +'9 9 32?' 2? 2*h'* 3 3'<*' 2E3*' 6)2/3 +3 93*2 3 =47)? @2;3 +2? +3 64=3 4: E336'*< +3 3)3/ '4*' 4: 3 ;'79 : 45 /45'*< 4 +3 ;4 3' 9 ' =29 +3 3A3 /'93? +3 27 +4 ' (4: E'*<' =' +47 2*(3)3/ '4*' 4=3;3 =+3*' +3 ?32 +' 4: 2 R7'*'79 @3/253 E*4=*' +3 /7 '39 '*C ;39 3? +'5 =' + +3 '0C 2*? 2: 3 =2 ? +3 ?'? +452<3 :4 +3 :' 9 '53 4 +3 52,39 (' 4: +3 /3* 7C '39 @(' /2))'*< 764*' +35 2)94 4 ?3/'?3 =+3 +3 +3 =29 4 3'<*' 4;3 +35

+3 =2 9 4: +'9 E'*< 2'B3 :2 +3)329 '564 2* '62 4: +'9 2/ '4*9 '97//399:7) 4*3 2<2'*9 +3 "3'3* '*39 4: =+'/+ '; (4*)(52E39 9)'<+ 53* '4* '9 52<*':'3? @(

@ :/ "-' " BB [6
(1.0/ S!1 1'5 08*- 2-/ @

#'4*(9'79' '* 4' ;'/ 4 '39' 4;3 ' +3' =+4)3' @!79/2*' *2 '4*' =+'/+' 2: 3 ' +3' ?32 +' 4:' 2 R7'*'79' +2?' 363* 3?' 4:' ' 9' 97@5'99'4*' @7 ' =29' /4563))3?' @(' 93;3 3' ?3:32 9' 4' 394 ' 4' ' ' 2' 93/4*?' '53 ' 29' +3' 4*)(' 532*9' 4:' 92:3 (' *?33?' +3' :4 <3 (' 52?3' =2(' 3;3*' '* 4' +3' %29 ' ' =+3 3' +3' 6 3(3*?3?' '756+9' 2 3' 3/4 ?3?' =' +' +3' (32 ' 2*?' ?2(' 4:' +3' ' 4//7 3*/J

*' +3' 4)?3 ' 2?' '4*9' 3 ;'79' *3A ' 4' ''52 ' 93359' 4' +j;3' +2?' +3' 9/2* '39 ' 64 '4*' 4:' 5')' 2 (' :253 ' '9' < 32 ' ?33?9' =3 3')2=9'G 2*?' +3' =29' *253?' @(' 649 3 ' (' 92(9' ';(' 29' +3' 27 +4 ' 4:' 2))' +3' ' /';')' '<+ 9' 2*?' '*(9 ' 7 '4*9 ' @(' +3' 9'?3' 4:' 752 ' +3' 27 +4 ' 4:' +3' ' 3)'(<'479' =4 9+'6 ' +3' /4*9 ' 7 '4*' 2 '@7 3?' 4' +'5' 3R7' 39' 2*' 3A6)2*2 '4*' =+'/+' 579 ' @3' E36 ' 262 ' 2*?' 354;3?' =' +47 ' +3' /' /)3' 4:' +393')3<3*?9 ' 7 ' +3')2(9 ' @(' =+'/+' 2')';3)(' 3535@ 2*/3' 4:' +'5' =29' 6 393 ;3?' 579 ' 2997 3?)(' +2;3' 2)94' /3)3@ 2 3?' +'9' 62('*<' +3' ?3@ 9' 4:' +493' =+4' =3 3' 3?7/3?' 4' '*?'<3*/3 ' 47 ' 4:' +'9' 4(2)' 3297 39'$ +'9' 3?335'*<' +493' =+4' +2?' 6)3?<3?' +3' ')2@47 ' :4 ' =+2 ' +3(' @4 4=3?$ 2*?' +'9' 299'<*'*<' 2))4 53* 9' 4:')2*?' 4' +3' : 33' 6)3@3'2*' /' 'H3*9 ' 47 ' 4:' +3' 3 ' 4 '39' +3(' +2?' =4*' :4 ' +3' ' /4554*' /47* (' =' +' +3' ' @)44?

3;3 2)' 2 '*' /4557*' '39 ' =+493' 4=*9' +2?' @33*' ?39 4(3?' 4 ' /4* '*73?' 4' 3A'9 ' 4*)(' 29' 52 E3 6)2/39 ' =3 3' 2 ' +'9' '53' 2' /4564*3* ' 62 ' 4:' +3' 452*' 6346)3 ' =+'/+' +2?' 2) 32?(' < 4=*' '* 4' 2' *2 '4*'G 2*?' +'9' *2 '4*' =29')32<73?' @(' 32 (' @7 ' *4 ' @(' 2' :3?3 2)' 7*'4*' =' +' +3' 2 '*9' =+4' +3)?' +3' ' <3*3 2)' 29935@)'39' 2 ' +3' :47*(2'*' 4:' %3 3* '*2B' 7/+' 2' :3?3 2)' 7*'4*' =29' 3::3/ 3?' # ' 3 ;'79 ' =+4' 2 ' +3' 9253' '53' 4@ 2'*3?' +3' 976 352/(' '*' ' '))' 97/+' :3?3 2 '4*9' 254*<' +3' 2*/'3* 9' =3 3' /4*(*3/ 3?' =' +' +3' =4 9+'6' 2 ' 9453' /4554*' 356)3'G +3' 97*' 2*?' 544*' #'2*79' 2*?' #'2*2 ' =3 3' +3' ?';'*' '39' 2?4 3?' @(' +3' 2 '*9 ' 29' +3' 5'<+ '39 ' +3' 549 ' 52*'(:39 ' 2*?' +3' 549 '@3*3;4)3* ' //4 ?'*<)(' =+3*' 3 ;'79' /4*/)7?3?' 2')32<73' @3 =33*' 453' 2*?' +3' +' (' 4=*9' 4:' +3' 2 '*9 ' 254*<' =+'/+' 79/7)75 ' 2@'' ' c*39 3

m

'@7 '/'2' ?32' =3 3' 2' +2' '53' +3' 549' '564 C 2* ' +3' /4*:3?3 2 39' /45@'*3?' '*' 2'9'*< 2' 356)3' 4' #'2*2' 4*' +3' ;3* '*3' +3' /+':' 2@4?3' 4:' 9*/+' 2 '*9' 29' +2?' *3=)(' @3/453' /' 'H3*9' 4:' 453' +3' 2@)3' /4*C 2'*'*< +3' 3/4 ?' 4:' +3')32<73' 2*?' 3*753 2 '*< 3;3 (' 6346)3' +2' 44E' 62 ' '*' ' ' =29' 93' 76' 2*?' 6 393 ;3?' +3 3'G 2*?' 63 +269' ' ' =29' @3/2793' +'9' J356)3' =29' +3' /4554*' 6 463 (' 4:' 453' 2*?' 2 '75 !' +2' +3' ;3*C '*3' =29' *4' '*/)7?3?' =' +'*' +3' 645^ '75'$ *3't'3 ' =+3*' 3 ;'79' 3A 3*?3?' ' ' @(' '*/4 64 2 '*< +3' 9R7')'*3' 2*?' +3' "'5'*2)' *4' '*' 97@93R73* ' 3*)2 <353* 9

+3' 2@'*39' 44',4'*3?' '*' +3' =4 9+'6' 4:' +'9' 356)3' ' 2@'*3' (3452*' +2?' 2' @7))' 4:'6 4?'<'479' 9'H3' @4 *' 254*<'Q +'9' /2)3' +3' 3*4 5479' +4 *9' 4:' =+'/+' =3 3' 6 393 ;3?' ?4=*' 4' ;3 (')2 3' '539' *2')3?' 76' '*' +3' ;39 '@7)3' '3' 944 +92(3 9' 2**47*/3?' +2' =+43;3 ' 9+47)?' 92/ ':'/3' +'9' @7))' 4' +3' #'2*2' 4:' +3' ;3* '*3' =47)?' 2'93' +'9' /47* (' 4' 7)3' 4;3 ' +3 ' /4*:3?3 2 39' +3' 2@'*3' +2?' 2) 32?(' ? ';3*' +3' ;'/ '5' @3:4 3' +3' 2) 2 ' =+3*' +3' 452*' 6 '39 ' / 2: ')(' 3@7E3?' +'5' :4 ' ?2 '*< 4' 4::3 ' ' 76' =' +' 7*C /)32*' +2*?9' +')3' +3' =3* ' 2*?' =29+' '*' +3' '@3 ' +3' 452*' 2//456)'9+' +3' 92/ ':'/3

+3')3<3*?' 3)2 39' +2' +3' E'*<09' @3*3:'/3* ' 2*?' ='93')2=9' =3 3' 3/3';3?' @(' +3' 62 '/'2*9' =' +' 97))3**399' 2*?' 2*<3 'G 2*?' ' 9' ;4'/3' 52(' =3))' @3' @3)'3;3?$:4 ' ;3 (' :3=' 4:' +3' ' ?39/3*?2* 9' =3 3' '*96' 3?' =' +' +3' ='9?45' 4:' E'*< +3464 5679' =+4' /4*94)3?' +'9' 36'*'*< R733*' @(' 3))'*< +3 ' +2 ')'5' 3?' 64=3 ' '9' 54 3')29 '*<' 4*< +47939' @3)4*<'*< 4' +3' *4@)39' '*' 9 4*< 9' 72 '4*9' =' +'*' +3' /' (' 3A/' 3?' 2)2 5' '*' 2*/'3*' 453' 29' +3(' ?'?' '*' +3' 2)'2*' 4=*9' ?7 '*< +3' 5'??)3' 2<39' +79' +3' 6346)3')44E' =' +',32)479(' 4*' +3' +4793' +2' +3' /4*97) "2)3 '79' =29' @7')?'*<G 2*?' +79' +3' 79/2*9' 2 3' 92'?' 4

A0' C1!! 2"/

J 8' ', -' +"*' 081' 4"*' 71" 0@1.' ', 1' : 66 (2!'*' +, (,' ', "'' "(2'1' (. ' (/ C!".1"82-/ 51.(1 @1:' 8' @*/ '

+2;3 @33* /45 52*?3? 4 ?39/3*? : 45 +3 33)'2* +')) . * +3 9253 96' ' ' ' '9 3)2 3? +2 =+3* 3 ;'79 =29 @7')?'*< 4* +3 9R7')'*3 R*? 44E B76)''9 4=* 39'?3*/3 4* +2 547* +3 =47)? *4 2))4= r)3 62 '/'2*9 4 :'A +3 3$,79 29 +3(=3 3 2: 3 =2 ? 6 4+'@' 3? : 45 ?=3))C '*< 4* +3 26' 4)'*3 7 +3 299'<*3? +3 ;2))3(4 +35 =+3 3r J)3(93)3? 2*? :4 53? +3 > + ,& '* +3 *3'<+@47 +44? 4: 2* 2 7?3*H'2*2 '9 9796'/'4* =29 *4 7*=2 2* 3? +79 57/+ 52(+3 /4*C 9'?3 3? 29 +'9 4 '/2) +2 +3(/4*96' 3? =' + 2 +3'*479 3@3) 2<2'*9 +3 ;3*3 2@)3 E'*<B

+3 4(2) +4793 4: 453 92(9 ';(=29 2)94 ?4453? 4 @3 ?3:')3? @(2<'/2)B+4 47 9 +3 =4 94*9 4: 2 R7'*'79 '9/79 7/'79 2*? 7*9 =3 3 52 '3? 4 +3 =4 ?27<+ 3 9 4: E'*< 3 ;'79 7/'79 /262@)3 4: / '53 +47<+ +3 ?'? *4 79+ '* 4 ' 4: +'9 4=* 2//4 ? =29 =3??3? 4 2 ;' 7479)2?($ 7*9 +4*39 2*? 9'*C /3 3 4 2 =':3 4: 2 :'3*?'9+ /+2 2/ 3 * 2<3? 2 +3)4*<)':3 4: +3 2<3? :2 +3 2*? 2 +3 262 +(4: +3 +79@2*? =+4 93353? 32?(=+3* +3 + 4*3 @3/253 ;2/2* 4 39'<* ' 4 +'9 25@' '479 @ 4 +3 9+3 9=4 3 ?39 7/ '4* 4 +35 @4 + +3 93?7/3? 7/'79 4 ,4'* '* /45 6299'*< +3 ?32 + 4: +'9 @ 4 +3 2*? +2 4: +3 4=* 9'9 3 ' +47 3;3* +3 9+4= 4: 547 *'*< +3( )' +3' 52 '2<3 4 /+ 2 +3 :7*3 2) 6')3 2*2B R7'))';3? 4 3*?7 3 +'9 94 4=I 933 53? +4=3;3 29 ': +3 / '5'*2)9 =3 3 4* +3 64'* 4:)49'*< +3 4@C ,3/ 4: +3' / '53G :4 3 ;'79 4 /456)3 3 +'9)3<'9)2C '4* 3* 3 2'*3? +3 +47<+ 4: 39'<*'*< +3 / 4=* 2*? 39 2@)'9+'*< +3 /4*97)2 :4 5 4: <4;3 *53* I 4

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=3 3 +3 62 '/'2*9)399 2)2 53? 2*? '*?'<*2* 2 +'9 6)2*6 :4 +3('92=' +2 +3 +2 3:7))2=9 4:' 3 ;'79 =47)? @3 /4*:' 53? :4 3;3 ':' /4*<7)9 =3 3 4 @3 2664'* 3? 2: 3 +3 52**3 6 46493? '*' +3 E'*<09 /45 53* 2 '39' +3*' +3 /4*96' 2/(' =29 '63' 2 R7'*'79 26632 3? '*' +3 93*2 3 =' +3 @2?<39 4:' 4(2) (' 2*? =29 < 33 3? @(' +3 '*97 <3* 9 29 6 '*/3' *' +3 4 4 '4:B 2 93?'C '479 /45 54 '4*' +3 E'*< +29 3*3? 7*J7* 3?' 4 +3 93*2 3B+4793' 2*? 9 2*?'*< '*' +3 ?44 =2(' 3@7E3? 2 C R7'*'79 29 2' 2' 4 +3)2 3 93'H3? +3 =32E 4)? 52*' 2*? + 3=' +'5' ?4=*' +3 9 4*3 9 369')33?'*< 2*? 5 5 53?' 3 ;'79 "')': 3? 76 @(' 945 3 79 (' 2 C 3*?2* 9 2*?)3? 2=2(6 @7 ' @3:4 3 +37 32/+' +'9 ?=3))B '*<,' +3 (2* 09 93 ;2* 9 /253 76' =' +' +'5' 2*? 57 C ?3 3? +'5' '9 @4?(' =29)3: ')('*< '*' ' 9 @)44?

Q 32*=+')3 7))'2' =29 44 '562 '3*' 4 2=2' +3 '?'*<9 4:' +3 397)' +3 ? 4;3 + 47<+ +3 5'?9 '4:' +3 / 4=?' 4 +3 93*2 3B+4793' 2*? +2')3? +3 ' +79@2*? E'*<' 3 ' 2*964 9 9 7/E 3;3*' +'5' =' +' +4 47 6 +3 /4552*?3? +3 ' 4 3 7 *' +453' *' 2 9 33 ' =+'/+' :'.45 +2 ' '53 :4 =2 ? @4 3 +3 *253 4:' T % ' +3 @4?(' 4:' +3 ':2 +3 '=29)('*< @3:4 3 +3 ' +3 57)39 9+ 2*E @2/E6 +3 ' 93 ;2* ' 67))3? '*' +3 3'*96 9+3 @ J' +'5' ? ';3 4*' 4;3 ' +3 /4 693' +3 @)44? 96' 3? 4;3 ' +3 /2 '2<3 2*? 4*' +3 ' ? 399

//4 ?'*< 4 2*4 +3 ')3<3*? =+'/+' ;'? +29 =4 E' 76I IJ +3 '*97 3/ '4*' 4:' 2 R7'*'7J 3A/' 3? 2 : 2(' @3C =33*' +'9 62 '92*9 2*? +493 =+4 352'*3? :2' +:7) 4 +3 E'*<$ '*' =+'/+ 3 ;'79' =+')3 :)('*< +453=2 ?' =29 9)2'*' 2' +3 :44' 4:' +3 9R7')'*3' 3*/3 +3 @)44?(' /4 693 =29)('*< @3:4 3 +3 /2 '2<3' =+3*' 7))'2' ? 4;3 4 2E3 6499399'4*' 4:' +3 62)2/3

/3 9+3 ;3 7 3? 4 3* 3' +3 356)3 4:' %4 7*3' =+3 3 +3 +4*47 3? 9 2 73 4:' +3' :2 +3' =29 3 3/ 3?' +3 9 2 73 +'?' ' 9 :2/3 : 45' +3)44E9 4:' +3 62 'B.' /'?3 I

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+3 6346)3 9 7**3 2*? ?'952(3? 97':3 3? +3 /+2'*9 =+'/+ +2? @33*)4493*3? 4 @3 :29 3*3? 764* +35 2<2'* 7 =+3* '+ +3 :7*3 2) 6 4/399'4* +3 '52<3 4: 3 ;'79 =29 @4 *3 @3+'*? +'9 @'3 '* +3 6456 4: 4(2) (3;3 (' ;' 7479 2*? 3;3 (' :'3 /3 6299'4* =29 E'*?)3? @(' +3 @3)4;3? :32 7 39 +79 39 4 3? 4 +3' 9'<+ *' ' '97 3/ '4* =47)? +2;3 @7 9 :4 + '5C 53?'2 3)('G ;3*<32*/3 =47)? +2;3 @33* 2E3*$ @7 94 =2;3 '*< 2*? +47<+)399 '9 +3 6467)2/3 ' 9 2<3 =29 2663293? =+3* +3 :2/3 =29 /4;3 3? 4;3 III & 3 +3 5354 (' 4: 3 ;'79 /4* '*73? 4)';3 ;3 (')4*<$ 2*? 9'*/3 +3 6346)3 /3)3@ 2 3? @'9 @' +?2(' 4* +3 *4*39 4: 3;3 (' 54* + Y :4 +3 54* + +2? @3/453 2 52 3 4: 7*/3 2'* (@7 +2 +3 =29 @45 4* +3 *4*39 4: 9453 54* + =29 2< 33? @(' 3;3 (' 2?' '4* Y 2*? 29 +3' ;3C *3 2 '4* < 3= 9 ' 9 4*<3 =+3* +3 62 '/'2*9 +2;'*< @3/453 94)3 529 3 9 4: +3 <4;3 *53* 7*?3 +3 /4*C 97)2 :4 5 =3 3 6 399'*< +2 ? 764* +3B/4554*2) (+3 93*2 3 2)3*< + :47*? ' *3/3992 (' 4 3*2/ +2 +3 52 E3 9 9+47)? *3;3 @3 +3)? 4* +3 *4*39$)39 +3 /47* (:4)E T @3'*< <2 +3 3? 4<3 +3 2*? '*:)253? @(' 6 393* 466 399'4* 2*? @(' +3 3535@ 2*/3 4: @3 3 '539 9+47)? +2H2 ? 2* '*97 3/ '4* 4 39 4 3 +3)2=9 4: +3 52 (!I

@ :/ "-' 80',1.A !1718 : 60!!0+1:)* @* .1G !"'1: 1;"('!*',1 (08'."*3 ',"" ".92 8 2-60.)": ',1)2. "! 06',1 (0.5-1/ -"* 87 8 40(D1.*/ U B B '1 H "8: ',"" 60.: ', - .1"-08 ,1 .1(1 @1: ',1 8"41 <6 ,1* +,0/ ! D1 !U 08*- 2-/ ',027,"-2(, (08:2(" '00 .2:1/ :1@ -1: "" +"* 06 7 @ 87 1.@ 2-/ 80 8:11: "")2. "! -2 '")!1 '0 , - ."8D/)2 "" !1"-" "5. @"'1 081

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9 4 (h4: #252 2 79 2/R7' 39 2893?7/ ';3)44E 4: +'9 4 '/2) 7 +: 45 +3 649' ';^ 52**3 '*= +'/+ ' 'g /4**3/ 3?= +' (693)79$ =+3 3@(' ' 26632 g 2 +3 9253 '53 4 /4*:' 5 +3 /+ 4*4)4<'/2) 9 2 353* g =' + 3<2 ?4 2 R7'*'79 4=/47)?' ' @3 2997 53?= +2 +3 9 4 (' =29 2*96)2* 3?' '* +'g 9+263 47 4: *2 ';3 2?' '4*g '* 4 +3 32)'39 '2**2)9' ' g '564 2*/3 =47)?' 4*)(' @3 '*/ 329 @(' +3 < 499 '<*4 2*/3 29 4 +3 2::2' g 4: 33/3 ?'96)2(3?' @(' +3 2**2)'9 g 3;3*' 94)2 3 29 +3 93;3* +' /3* 7 (' 4: +3 /' (' 2*?' @(' +3' ' 52*':39 '*/45C 63 3*/3 ':4 /4* ';'*< +2 +3 2@)39 4: +3 64* '::g 9+47)?' 9(*/+ 4*'H3 =' + +3 +'9 4 (' 4: 4 '* +' #'?' +3(' *4 /4*9'?3 #'4*(9'7g 2 /4* 3564 2 (' 4: 4 '4)2B *79L ?'?' +3(' *4 :2*/(' 7**'*< 4:: '* 4 +3 46649' 3 :3 4'70 +2 '*' +3 (32 ' +3 2 +2<'*'2*' 2 5'39 / 49 4;3 '* 4 '/')(' :4 +3 :' 9 '53\[L

7 +'g 2662 3* /+ 4*4)4<'/2) /4'*/'?3*/3 9 2*?g 2*?' :2))g =' + +3 ?2 39 299'<*3?' 4 2 R7':)'79 6 2*?' +3 4*)(' :47*?2 '4*' :4 +393 'g 2 6'3/3 4: *753 '/2) ':)'*< *' +3 @2 3 356 (' 47)'*3 =+'/+ 'g /)32)(' 2*' '*;3* '4*' +3 3 52(' 9335' 4 @3 97/+ 2*' 2< 3353* ' 7 +3 4)?' 452*' 9 4 (' =29 3*4 5479)(' 2 ;2 '2*/3

-8 0.' ',1 60.41.' 50 8'/ -11 08*- 2-/ @2 ' '3 60.' ',1 !"''1./ @*/ F3 +,0 .151"'-' ',1 -'"'1418 + ',02 "-(.25!1 ,1.1 -' "- 872!".' 4 -28:1.-'"8: 87 ,1.1/ +, (,' ' + !! 1;5!" 8 8 ',1 -1(08:' @0!241

=' + +493 ?2 39 *4 ' '9 +3 3 2'+(6499'@')' (4: 2 3/4*
/')353* +2)44E9)'E3 4*3 +29 4*)(@33* 3::3/ 3?
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)) +3 452* 2**2)'9 9 =' + +3 3A/36 '4* 4: '94
=+4 2?7) 3 2 3? +3 9 2 353* 9 +3 :47*? :4))4=3? %2@'79
'* /2))'*< +3)29 E'*< 2*? +'9 @ 4 +3 7*9 +3 94*9
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+44? 2*? +'9 2//47* =29 2?46 3? @('/3 4 2*? ';(
%2@'79 92'? *4)399 3A6 399)(B +2 +3(=3 3 +3 94*9
4: 2*2R7') 2*? +2 9+3 47)';3? 7*9 '9 '* 63
:3/ +2 54*(=' + +'9 $+2 4))2 '*79 2*? 7 79
+3 :4 53 4: =+45 '9 ?39/ '@3? 29 +3 < 2*?94* 4 +3
@ 4 +3 4: +3 3)?3 2 R7'*'79 +3)2 3 29 +3 94* 4:
+2 E'*<0 ?27<+ 3 2 3 4: +3 9253 2<3 =' + +3 94*9
4: /' R7'*'79 763 @79 2*? +'9 9 'E39 94 ?336 '* 4
+3 +32 4: +3 9 4 (+2 +3 3:'*353* 9 4: '94 2*?
#'4*(9'79 ?39 4(2)) /4**3A'4* '* ' 2*? 3* 2') +3
*3/399' (4: 9 ')) 54 3 :2)9':'/2 '4*9 +2* +3(+3593);39
?3;'93? '* 4 ?3 4- 39 4 3 3;3* 2 9/2*)'*< 4: 93*93
2*? 7*' (
+3 3 *3;3 =29 2* 329'3 +'9 4 '/2) /4* 4;3 9(+2*
4 9+253 4)? %2@'79 @(/2)/7)2 '*< +2 2 R7'*'79 ':
29 +3 **2)9 <2;3 47 +3 /2*'3 4 453 2)2 39 '*
+3 3'<+ + (32 4: */79 579 2)329 +2;3 32/+ +'9
3'<+ '3 + (32 =+3* +3 =29 57 ?3 3? 2*? +2 2*2
R7') /2**4 +3* +2;3 @33* 7*?3 +3 93;3* (B:': +$ 94
+2 +'9 +2;'*<)3: /+')? 3* 4: 3*?3 2<3 @3+'*? +'5
=29 47 4: +3 R739 '4* 5 4 34;3 ': 7*9 ?'3? '* +3
:4 '3 +(32 4: 3 ;'79 +'9 54 +3 579 +3* +2;3 @33*
2 +7*? 3? 2*? :': 33* (32 9 4)? ' + %2@'79 '*?33?
#'4*(9'79 5'<+ 2 <73 4* +3 6 35'939!4: +3 /+ 4*4)4<(
2?5' 3? @(@4 + 7 +3 4)? 643 =47)? +2;3 36)'3?
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7 29 944* 29 +3 @' + 4: +3 :' 9 2 R7'*'79 '9 6)2/3? 2)329 :': (' (32 9)2 3 #252 2 79 /32939 4 @3 +3 /4* 3564 2 (' 4: (693)79 6 2*? ?4=* /4539 +3 =+4)3 9 4 (' =+'/+ =29 :2@ '/2 3? 47 4: +'9 /4'*/'?3*/3 @(' 9453 33E)32 *3? '* /+ 4*4)4<(' 7/+ '*;3* '4*9 52(' +2;3 2;3)3? 4 453 29 32)(' 29 +3 '53 4: %2@'79$ 9'*/3 +3 :2 +3 4: 452* +'9 4 (' ?'?B*4 = ' 3 '))2: 3 +3 ?32 + 4: 2 49 +3*39

3 3 2<2'* =')* *4 3:793 4 (' ':' /2* 3A6)2'* +4= +3 /7 3* 9 4 (' 2 493 +2 9 4 (' '9 ;3 (' :2 : 45 +3 9253 +'*< =' + 2 /3 2'* 2*/'3* 5/4B 2 2* 2C ?' '4* +2 7 '2 +2? 3/3';3? 2)6+2@3 '/2) = ' '*< 2*? +3 2 9 : 45 33/3 +3 2)3 4: #252 2 79 63 94*':'3? +3 @32 3 9 4@4?('97 3)(' =')) 6)2/3 +3 9/7)6 4 9 7/+' 2*? 7< 25 579 +2 '9 ' 4: /)2(2*?

T ,01@1. + -,1- '0 60.4 '" 80' 08 "- '0 ', 1 5.0)")!1 41"8 :2."' 08 06 "" 4"7 -'."(* .1-14)! 87 ', 1 04"8 408".(,*/ 4"* "(G 92 .1 " 6.04 ', 1 ("""!0721- 06 ', 1 181' "8 :071-/ :2. 87 ', "" 51. 0: +,18 ', 1 1!1(' 08 : : 80" 6"!! 06 -1" 52.50-1 08 0!: 418/)2" 08 51.-08- 6 " '0 70@1.8/ "8: '0 (044"8: ', 1 ". 4 1- 06 ', 1 -'"'1 2.G 87 ', 1 6@1 (18'2. 1-)1'+118 "8: / ', 1.1 +1.1 60.'* :071-? -0 ', "" '+1!@1 *1".- "8: "" , "!6 6"!! '0 ', 1 -, ".1 06 1"(, 1- :1- "" ', 1)17 88 87 ', 1 066 (1 +"- 8 6"(" ,1.1: '".*

+ " 764*' 29 32) 63 94*2<39 '* +3 +'9 4 (4: +3 2 9$ (3 +393 *2539 9335 4 @3)4*< 4! 32)(' '539 4 94 +2 4:)346+2* 79 +3 62'* 3 =+4 =29 6 4C @2@)(' 2??3?: 3 =2 ?' #252 2 79 +4=3;3 'g '*9362 2C @)3 : 45 +'g /4562*'4*9G 2*?' 'g @(' *4 532*g :2' 4)493 9'<+ 4: 4 9)7 4;3 +'g @3'*< +3 '* 4?7/3 4: = ''*<$ =+'/+ 'g 4*)(' ?4*3 @3/2793 'g '56499'@)3 4 @3)'3;3 +2 +3 2 =29 *4 @ 47<+ '* 4 (+3*'2 7* ') 2@47 +3 +' '3 +)(56'2?

+2 'g 3)2 3?: 4: +'5 'g 2* 2*/'3* 2?' '4*,79 4: +3 9253 E'*?' 29 +2 =+'/+ 52E39 ;2*?3 32/+ +3 2 4: = ''*< 4 +3 2 '*9 '<'*2))(' ' =29 =' +47 2*(' ?3 3 5'*2 3 ?2 3 2*?' 4*)(' 36 393* 3?' +3 :2/ 29 @3)4*<'*< 4 +2 354 3 63 '4?' =+3* = ''*< =29 :' 9 ?'::793?' 2*?' +3 2 g =3 3 '* +3 <3 5 :4)346+2* 79 +2?' *4 4 +3 /4)47 g +2* +3 3?' ?79 < 47*?' : 45 ')39 4 +2 2997 3?)(' +2?' +3 *4 '4* @3/453 54 3 ?'9 '*/ ' +3 2<3 4: #252 2 79 =47)?' +2;3 @33*' + 4=* @2/E')'E3 +2 4: ;2*?3 :2 @3(4*?' +3 :' 9)(56'2?' g 4 +3 9 2 353* ' +2 4 '* +' =29 +'g +453 2 +'* :4 3A6)2'*'*<)''g 5'<+ 63 +269 @3 ?3 ';3?' : 45 +3 3935@)2*/3 *4 '/3?' 2@4;3 @3 =33*' +3 32 +3*' ;2939 4: 2 R7'*'" 2*?' 4: 4 '* +' .'G =+'/+ =47)?' '*:3 +2 +3 3 =29 9453 63/7)'2 '* 3 /47 93 @3 =33*' +393 =4 52 'C '53 /' '39 3 +269 44 9453 4 '* +'2* 4: +2 *253 ?'?' 2/ 72))(' 2 4*3 '53 4 4 +3 39'?3 '*' 7 '2' 2*?' <2'*' /3)3@ ' ($ =+'/+ @3/253 9 '))' < 32 3 =+3*' +'9 *253 =29 <';3*' @(' +3 :2@)3 4 +3 2*/'3* 32/+3 4: (C +3*'2' +3*' +3 +2?' +79 @3/453 <3*3 2))('E*4=*')'E3 (+2<4 29 +3 452*')3<3*?' /4**3/ 3?' 2 R7'*'79 =' + +'5 29 '' ?'?' 752 2*?' +3 5')'" =' " +2 6+')4940 6+3 $ 2*?' : 45 452*' /)54*4)4<(' ' =29 /4*/)7?3?' +2 +3 579 +2;3 @33*' /4* 3564 2 (' =' + ,R,93)79 2*?' 94 5'<+ @3 2 :7<' ';3 2//+'2?' '3 /2793 =+'/+ 52?3 +'5)32;3 +'g /47* (' 'g /)3;3)(' ?3;'93?' 2*?' 94 'g +3

9 4 (+4=+3 =4*B<3*3 2)6467)2 ' (G :4 ' ' =29 *3/39C
92 (4 2//47* ':4 '2:4 3'*3 09@3'*<: 33)(' /+493*E'*<
4=9+47)?2*(4*3 /4*/3';3 +2 ' +3 +'9 4 '/2) :32C
7 39 4:+'9 9 4 (2 3 4@3?3 3/ 3?@3+'*?+3)3<3*?2 (
529E 2*? +2 ' 2 R7'*'79 52(+2;3 @33** 2 (+3*'2*'
@45 4:2** 79/2** 54 +3 ' '** 2 52 '2<3 4:?'962 2<3C
53* '+3 5'<+' 7 <3' 254*< 4 +3 ' 2 <753* 9 +'9 +2;'*<
'* 4?7/3? 33E ' 39 2*? 36 393* 2 '4*9 4:+3 <4?9
'* 4 +3 452** 356)39 %4 ' 5(' 4=** 62 ' ' =')) +2H2 ?
2 ;3 (?'::3 3* '/4*,3/ 7 3' +47<+4*3'** +'9 64'* ' *32)('
2))'3? 4 +2 '=+'/+ +29 ,79 '@33** 97<<39 3?2'/4*,3/ 7 3
=+'/+ 52(' 63 +269 9 2)3 3;3** 97/+ 29 2 3 *4 ' 4;3 B
'5'?' 54 3 +2** 2*(' 4 +3 ' 46'*'4** 2 ' ;2''2*/3 =' + +3
3/3';3? 4*3' &3 ''*B5 (' 3(39 ' '+29 2'6 4@2@'+ (' 2547* C
'*< 4 /4*;'/ '4*
+3 976649' '4** +2 ' 2 R7'*'79 =29 2** 79/2* '
4=3?' 9 4 '<'* ' /4*/3';3 94)3)(' 4 +'9 *25309 @3'*<
?3?7/3?: 45 +2 '4: +3 79/2** /' (G 94 +2 '+3 =29
54 34;3 '?3353?2 97' 2@)3 63 94** :4 ' +3 79/2** 2<3
4: 453 4 @3 3:3 3? 4' 4 :2 '+4=3;3 ' 25' ': 45
3<2 ?'*< 2 R7'*'" 29 +3 @' +6)2/3 4:+'9 2/3 ' +2 '
+4)?' ' 4 @3 4: 2 '** 4 '<'*
+3 *4 '4** +2 ' +3 2 R7'*9 =3 3 2 :25')(' '** 47 '
93*93 4:+3 =4 ?' '9 ?'96 4;3?@(' +3 :2/ ' +3 3;'?3*/3
:4 '=+'/+ ='))@3 @ 47<+' :4 =2 ?' @(' 2*?@(',E +2 ' 2
=+4)3 2 R7'*'2** +4793 3A'9 3?2' 453' =+'/+ =29
@2*'9+' 2)4*<='+ +3)29 E'*<' 3 2)94:'*?53* '4**
4:2 R7'*9 2 ' 27 3* 75'\.I +393 52(' @3 9766493?
4 +2;3 @33** 3A')39 4:+2 '+4793G +7 ' 3;3** ':+3(' =3 3'
+3)3<3*?4 ' 2?' '4** 579 '+2;3 52?3 +35 7 ** +3' '
9 369 4 +'9 6)2/3 ' 29 ' ' 52?3 4))2 '*79 93)3 2 ' 2;'B
*'75 ' +3** 97/+ 2 @3)'3:=29 /7 3* ' 2997 3?)(' 2 C
R7'*'" =29 *4 ')44E' 764** 29 +3' '+453
+3 2 '** 4 '<'** 4:+3 2 R7'*9 '9 64'* 3? 47 ' @('
+3 97 *253 4:+3 :' 9 'E'*<',79 ' 29 +3 *2539 4:4 +3

62 '/'2*9 9+3=37 : 45 =+2 6346)3 +3(96 2*<I . . P !4
=29 /3 2'*)(+3 *253 4: 2 6346)3 ,79)'E3 9 +
,& 2*?2: 3 +3 ;3 (9253 52**3 ?'?' < 4= 4
532* $ 2*?+ & +3 =3 3
+3 7)+3 :4 57)2 (:4 ?3/)2 '*< =2
=+'/+ '; (+29 '*93 3?7*?3 +3 3'<*4: */79 '9 '*C
?33?2*(+'*< @7 2 ?4/753* 4: +2 2<3 '9 2E3*
+4(;3;3 : 45 +3 @44E9 4: 64* ':'/2))2= =+'/+ 3A 3*?3?
'* 4 57/+ 3543 2<39 +2* +3 **2)9 2*?+3 = ' @ 9
4: =+'/+ 36 393* 3?+3 /' /7592*/39 2*?3)2 '4*9 4:
9 ')) 32)'3 '539 *+393 @44E9 97/+2* 7 3 2@97 ?8
' (=47)?*3;3 +2;3 @33* /4553' 3?' 29 4 ? 2= 76 2
:4 57)2 (?3/)2 '*< =2 2<5*9 +3 2 '*9 2 '53
=+3* 2 '* /4)4*'39 +2?*3;3 T@33* +47<+ 4:G +3 3AC
6 399'4* '9 2) 4<3 +3 7*3A/36 '4*2@)3 ':793?4 ?3*4 3
+3 7*' 3?*2 '4* 4:)'3 '9/2*9 2*?2 '*9.I 4= +3
3 ;')'' 254*< =+45 =29 2 97 *253 =3 3 254*<
+3)@2* +47939 4* +3 23)'2*$ 29 =3 3 +3)43)'' =+4 @4 3 +3 97 *253 4: @ :4 +3)@2*9 =3 3
/4*/3';3?4 @3 2 5'A 7 3 4: +3 '/7)'2*9 =' + +3 '9C
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ÆA ; 11 ")0@1/8 BN U :
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+3 7/3 3J 94 =3 3 +3 2 R7'*9 +3 +32?9 2*? 36 3C 93* 2 ';39 4: +2 '@3 *' +'9 /262/' (+3(' =')) 26632 '* +3 /47 93 4: +3 +'9 4 ($:4 +3 6 393* ' =')) 4*)(352 E +2 +3 :2 +3 /2))3? 76 +3)3993 +47939 4 +3 93*2 3 2*? +2 +3(' =3 3 +3 :2/ '4* =+'/+ 976C 64 3? +3 94* '* +'9 '*97 3/ '4*9.0 +2 4*3 4: +3 7/3 39 9+47)? +2;3 @3/453 E'*< @3:4 3 +'9 '@3 =29 2'93? @(' +'9 532*9 4 +3 :7)) '<+ 9 4: /' 'H3*9+'6 '9)3J 97 6 '9'*< +2* ': =3 9766493 +'5 4 +2;3 @33* 2 :4 30B3 *?33? @(' 5')' 2 (' '*:)73*/3 ' 52(' 329')(' @3 3A6)2'*3?$ 2* '*: '*<353* 4: 6 ';')3<39 '* 97/+!2 9 2 3 4: +'*<9 @3'*< 57/+ 54 3'6499'@)3 +2* '5?3 +3 /4*97)2 3 +3)@2*9 2) +47<+! 2 5'A 2/3 =3 3 55*)(' (+3*'2*9C 2*? +'9 2//47* 9 :4 +3 =4 9+'6 4: +3 33E <4?9 2 +3 !$ ('&=+'/+ ':' 2 B R7'*'79 =29 2* 79/2* '9'92' '*3A6)'/2@)3 #4=* 4 +'9 '53 +3 2@'*3 =29 +3 6 3;2')'< 3)'<'4* 2 453 2'2 93/')'2 @3)4*<9 4 2)3<3*? /4*/3 *'*< 2 B R7'*'79 3* ' 3)(' ?':'3 3* : 45 +3 3/3';3? 4*3 %4 '* +3)2 3 'B 2*2R7') /4539 4 453 =' +' +'5 2*? 47)';39 +'5C *4 '9 2*(+'*< 92'? 4:+3 +2;'*< /+2*<3? +3 79/2* *253)'E3 +3 +79@2*? 23/')'2 +2 2 9 2 73 '* 2 356)3C 94 /)32)(' '9 +3 2?' '4* 2@47 +3 +3 4)?3 $ 2*? +3 *253 '56)'39 2 /4**3A'4* =' + 23*39 3 927? 4 +2;3 @33* @7') @(' 23/7)79 .I +3 +3 4'/ :47*?3 4: +3 +4793 *' +'9 64'* +3 :'/ 'B P'479 79/2* 2 R7'*''9 +3 94* 4: #252 2 79 +29 *4 R7' 3 4@)' 3 2 3? +3 2/39 4: +3 2 '* '9/79 +3 +'9 4 '2*9 2) 4<3 +3 + 3=29'?3 =+2 +3(' /47)? *4 3/4*/')3 =' + +3' 2//47* 9

29 2 *253 :4 2* 79/2* =47)? +2;3 @33* ,79)'E3 +2 4: :4 2 452* +2 *4 97/+ 3;3 4//7 3? 27*4*< +3 79/2*9 '9 2 64'* 4* =+'/+ +3 < 2;3B9 4*39 =3 3 ' *33?3? 5'<+ 93 ;3 29 =' *39939

@*/ B3 .(24 .1 1 5.18-".1 $
5"'.1- ÆK 1.@ 2-/ 08 n 8 @2 N

+3' 266)'/2 '4*' 4:' ' ' '*' +3' 452*')3<3*?9' 4' '*?';'?72)9' 4' +3' 2))(' m:' 457)79' 4' +3' *4@)352*' 4:')79'5*.' 2*?' 4' 2 R7'*'79' '9' 2' 6 44:' +4='7 3)(' 7*'*:4 53?' +3(' =3 3' 4*' 3;3 (+'*<')'2' /4*/3 *3?' +'9' *2 '4*' +47<+' '*' +3' ' '5 53?'2 3' *3'<+@47 +44?': 45' +3' ' *4 ' 7*?3 9 2*?C '*<' 2' =4 ?'4:'' 9')2*<72<3

+3' < 32 39' 3;3*' '*' +3' 9 4 (' 4:' 2 R7'*'79' '9/79' +'9' 97@?7'*<' +3' =+4)3' 4:' 7 '2' 947 +' 4:' +^' 63**'*39' '9' 3* ' 3)(' 629' 4;3' @(' '/3 4' 2*?' ';(' 7' +3' 'C 756+2)' %29 '' 9+3=' +2' +3 3' 44' #'4*(9'79' +2?' **2)9' 4' @32' +'5' 47 G' 94' +2' +3' 2//47*' +3(' <2;3' 579' +2;3' @33*' 3,3/ 3?' 29' '*/ 3?'@)3' p (' +493' 452*' = ' 3 9' 29' *4' ?47@' ' ' +2?' @33*' @3:4 3' +3' '53' 4:' '/3 4' @(' 4)(@'79' 4' '*' 7 +' *33?' =3' 9/ 76)3' 4' ?3*(' +3' +'9 4 '/2)' /+2C 2/ 3' 4:' 2' 9 4 (' 9 2 '*<' +2' +3' =3);3' 79/2*' /' '39' : 45' "3'" 4' 3 '75' *4' 4*3' 4:' =+'/+' '9' 3;3*' 92'?' 4' +2;3' @33*' @39'3<3?' 57/+')399' 2E3*' =3 3!' '*?7/3?' 4' 97@5'' 4' 2' 529 3' @(' +3' B9'*<)3' @2)3' 4:' 3 75'$ 2*?' /4*93R73*)(' +2' 4:' +3' =+4)3' =2 ' '*' 96' 3' 4:' +3' 'C 756+2)' %29 '' ' +3' 9253' '53'B +'9' 7*'4*' 4:' 453' =')J' 7 '2' 52(' 63 /+2*/3' @3' 4*3' a:' +3' ;3 (' :3=' +'9 4 '/2)' :2/ 9' @3)4*<'*<' 4' +493' 2<39' I!\' 7' 3;3*' ':' 453' Ba29' +3' /26' 2)' 4:' 2' E'*<' =+4' 7)3?' 4;3' 7 '2' 2*?' =' +' =+45' 2 R7'*'79' : 45' +'9' *253' =29' '?3* ':'3?' 2*?' ':' +2' E'*<' 35@3))'9+' '' =' +' =4 E9' 97/+' 29' /47)?' 4*)(' @3' 3A3/7 3?' @(' +3' 64=3 9' 4:' 2' < 32' *2 '4*' =+4' '9' 2@)3' J4;47/+' +2' 453' /4*R73 3?' 7 '2'L' 2*?' +2' ' ' =29' *4' 2' 79/2*' +2' :'A' +'9' 2@4?3' 2' 453' '*' +3' /3*C 2)' 64'*' 4:' 7 '2' 2 '75' 2*?' +3')2*?' 4:' +3' 2C @'*39'L

+3')3<3*?' +2' 3 ;'79' 7))'79' =29' @4 *' '*' 9)2;3 (' +47<+'<3*3 2))(' 2?46 3?' 3;3*' @(' 97/+' 29' ?'?' *4' @3)'3;3' +3' 9 4 (' 4:' +'9' 52 ;3))479' /4*/36 '4*' =29' 6 4@2@)(

>' 08*- 2-/ ' B?' @ U @'

1.'" 8' "2',0.-' .1":')*' '.")0' S@' 5' ' " # -5"D1' "!-0' 06' ".92 8 2-' "-' ',1')1816"('0./ "8:' :02)'!1--' 2-' ',1' .2!1./ 06' '.2. "

4//29'4*3?' @(' +'9' *253'$ 4 ' 2 ')329 ' +2 ' 93353?' 4' 39 2C
@)'9+' ' 9' 7 +' 4=' 549 ' 4:' +3' 3A6)2*2 '4:'9' =+'/+' +3'
452*9' <2;3' 4:' +3' ' 4 ?'*2 (' *2539 ' 2 3' ,79 ' 29' 2@97 ?'
29' ' ' =47)?' @3' 4' 3A6)2'*' 52*(' 4:' 47 ' 4=*' /4554*'
4*39' @(' 532*9' 4:' 37 4*'/' 44 9C :4 ' +3' 452*' 2 3'
4:' 2@'*3' 4 ' 9453' 4 +3 ' :4 3'*' 4 '<'* ' 29' 3; 3*' "2 s' +3'
549 ' /26 '/'479' 4:' 2))' 3 (54)4<3 9!' 2))4=9 ' :' =3' 2 3' ?'9C
6493?' +4=3;3 ' 4' 2//3?3' 4' =+2 ' +29' 2' 6)279'@)3')44EB
2*?' 94' 4' 2?46 ' +3' ?3 ';2 '4*' <';3*' @(' %39 79' 2*?' 4C
@79' :4 ' +3' *2539' 7 ' 2*?' ' =3' 52(' :'*?' 2*'
2*2)4<479'B2*?' 97' 2@)3' 532*'*<' :4 ' @ $ ' 4 ' @ ' ' 4'
=' ' 2' /+')?' @4 *' '*' +3' 3;3*'*<' : 45' ')'E3'67 '
: 45' Z)

: 3 ' 2))' +3' 549 ' 352 E2@)3' 4:' +3' 452*' E'*<9 '
=+493' 63 94*2)' 3A'9 3*/3' +3' +'9 4 (' 4:' +3' /4*9 ' 7 '4*'
/2**4 ' 3:793' 4' 3/4<*'H3J' '9' '*' 2))' +3' *2 2 ';39' 4:'
45B +'9 4 '2*9' 29' 57/+' 2' 5 (+4)4<'/2)' @3'*<' 29' 457)79'
4 ' 752B 3')44E' 2@4'' ' :4 ' :' 5' < 47*?'$ 2*?' +2?' *4C
+'*<' @7 ' +493' :'/ '4*9' @33*' +2*?3?' ?4=*' ' 9+47)?' *4 '
</ 76)3' 4' :4))4=' +3' 2/E' 64'* 3?' 47 ' @(' +3' 3)2 '4*'
@3 =33*' +3' E'*<' =+4' 6 3/3?3?' +'5 ' 2*?' +3')3993 ' +47939'
+3' 7))'" 2 3' 53* '4*3?' 254*<' +3')@2*' +47939' @('
'; ('G +3*/3' ' ' =47)?' @3' 6 4@2@)3' +2 ' 3 ;'79' 2)94' @3C
)4*<3?' 4' +3' 7/3 39 ' ' =47)?' <4' :7 +3 ' 2*?' /4*,3/C
7 3' +2 ' +3' 52(' +2;3' @33*' +3' 4::96 '*<' 4:' 2' 52 '2<3'
7*92*/ '4*3?' @(' +3' 9 2 3' =' +' 2' 2 '*' =452*' 4:' 4 *'B
/7)75 ' 7 ' =+2 3;3 ' =3'<+ ' 52('@3' 2 2/+ ' 4' +393'
6 4@2@')' '39 ' ' 3R7' 39' 54 3' /47 2<3' +2*' 2*(' 4 +3 '
/4*,3/ 7 3' '*' 5 (' =4 E' 4' 9632E' =' +' /4*:'?3*/3' 4*' +'9'
+32?' %4 ' @(' 2' ?4/753* ' =+'/+' ' 93):' +29' @33*' 6 3C
93 ;3?' '*' 2*' 3A 24 ?'*2 (' =2(' 3 ;'79' '9' 2*964 3?'
'* 4' 2' 4 2))(' ?'::3 3* ' 3<'4* ' @7 ' '9' 6)2/3?' =+3 3' =3'
9+47)?' *3;3 ' +2;3')44E' :4 ' +'5

,1' 8"41' 06' ',1' 1.@ ! "8' ,08-1')1- :1-' I2-' 6 1-' 2-' 8' (08C
I1('2. 87/' + ',02" 61".' 06' 70 87' +.087/' ',"*' ',1.1' +"-' "' ,1.0' 8"41:'
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3 3A/+2*<3? +'9 79/2** *253 29 25_ :4 2 452*
4*3 4@ 2'*3? +3 E'*<)(64=3 2*? ='3)?3? ' 4 +^
< 32 <44? 4: +3 9 2 3

4= 23)'79 4 23)39 "'@3**2 2*? +3 93)'*< 4:
+'9 2 5(2 453 4* +3 +')) *253? 2: 3 +'5 =3 3
E*4=* 4 +3 452* 2 /+34)4<3 9 2*? 3;3* 53* '4*3?
'* +3 **2)9'b //4 ?'*< 4 +35 23)39 +'593):/253 4
453 @7 B 29 2/' 79 4@93 ;39 .. +3 9 2 353* 9 29 4
+3 E'*< '* =+493 3'<* +3 /253 ?'::3 3? < 32)(3
+'593): 2997539 +2 ' =29 7*?3 2 R7'*'79 '9/79
2*? 2 52*<)3? 62992<3 4: %39 79 =+3 3 23)39 2*? " 'B
@3**2 2 ^ 54 34;3 92"? 4 +2;3 @33* @ 4 +3 9 93359
4 +2;3 2< 33? =' +'5' * +3 4 +3 +2*? +3 9253
%39 79 '* 254 +3 62992<3 2)4*< =' + #'4*(9'79 2*?
"2 sZl 6)2/39 +'5' '* +3 2<3 4: 457)*9 ?7 '*< +3
2@'*3 =2 4 + 9 2 353* 9 52E3 +'5' /453 @(+3
'*;' 2 '4* 4: +3 452* E'*<9 4 299'9 +35 * 2)
+393 9 4 '39 29 '* +3 79/2* 4*3 +3 26632 9 29 +3
)32?3 4: 2* 2 5(2'93? @(+'5 3)J 2*? *4 @)4*<'*<
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-10-/ "1! 9208:"4 @188"1 -0:"! - 6 :1! -- 42-/048 -981 1I2-
("-2- (041-3 50-'92"4 @". "60.'28" 1;"('2- (24 048)2- .1! 92 -
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ÆÁ 88" @ N

> &' &C> &C 27$&K= F $H+H I $ 7+% $ $
27 7 + $2+H 7 $ 7C7?% + F+' '+K7 2=7 7 =7 K+F" +??$ H7 7%
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Y 1-' 5 ' 01! 2- 08-? 08*- 2-/ N3 "..Q/ :1
@ 5 + !! .14".D , 1.1)*' , 1 +"*' , "' , 1 : 5, ', 087
8 ' , 1 8"41 06 ' , 1 , !! "8: 06 ' , 1 '.2-("8 (044"8:1./"- +1!! "-
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'0 +. '1 G H "8:)1- :1-/ ' , "' 'D1 !0.18' 81 4"82-(. 5 06
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 0@1.!00D'

93 ;'*< 2 529 3 :4 62(2 4 +3 6'))2<'*<! 2*? 3A2/ C '*< /4* '@7 '4*4 4* +3' 4=* 9/4 3 3 32? 93;3 2) '539 4:: 4 3'*3)3;('*< 53*' '* 7 '2 2*? +2 44 '* 32)(2<39.$ 2 6 2/ '/3 47 4:=+'/+ 97/+ ?2*<3 479 @4?'39 4: 4469 5'<+ 329')(2 '93

+2;3 2) 32?(352 E +2 +3 7/754 53* '4*3? '* +3 2@'*3 =2 'g *4 4 +3 +2* F3)39 =+4 =29 2*96)2* 3? '* 4 +3 2<3 4: 457)79 @3/2793 7/3B 75 +2? 3A'9 3? : 45 '53 '553 54 '2) @(+3 9'?3 4: 453 2*? +3 79/2*g 4* +3 23 2* =3 3 2E3* :4 79/2*9 +'g 2/3)32?g 79 :7 +3 7/+ =29 +3 57) '6)'/ (4: +3)3<3*?9 J!' 'g 3A/33?'*<)(6 4@2@)3 +2 '* 9453 4 +3 +3 9766493? 7/754 2 R7'*'79J29 '?3* ':'3? =' + +'g ;3 (79/2*)32?3 * +2 /293 +3 /2))'*< 76 4: +3)3993 +47939 4 4: +3 7/3 39 2*C 9=3 3? 4 +3 93)'*< 4: 93)'79 2*? +'g :4))4=3 9)'E3='93 97963/ +2 +3 3 =29 2 /4**3A'4* @3 =33* +3 452*)3<3*? 4: 2 R7'*'79 +3 299753? 976 353 +32? 4:2))' 7 '2 2*? +3 79/2* 4*3 4: +3 /4*C R73 4 2 /+4*.I +3 :47*?3 4: 2 R7'*'' =+4 =29 @45 =' + +3 ='9?45 2*? +3 < 3(+2' g 4:4)? 2<3 +'g 2/+0* +4=3;3 2 ?39/3*?2* 4: 3)36+79 =29 4*)(/)2'53? @(+3 293*2 29 3/4 2*? +3 37/ '2* +3 439 =3 3 @(+3 33E '*+2@' 2* g 4:)'75 3 @3C)4*<g 4 +3P (+3*'2*9 2*? =29 6 4@2@)(+3 +3 4 =+4 <2;3 *253 4 +3+4793 4: +3 2 R7'*9

3 3 62793 /4*;'*/3? +2 +47<+ 2 :3=64'* g '* +3 ?'5 ?'9 2*/3 52(26632 ?'9 '*<7'9+2@)3 : 45 +3 +'<+ +3 =+4 =47)? ?39/3*? 4 266 42/+ +35 =47)? :4 += ')493 9'<+ 4: +35 2*? +2;'*< *4 :'A 64'*

A)0@1/5 F/80'1

)0@1/53 FB 08*-2-/!! B 045".1 "..Q/:1

F5 B

AA (,0! 1.08 08+! 6 < "8: < ,0+1@1.42-" -2.1!*) 1)!28:1.- 06',1 -(.)1- 11 '.")0/ 5 F: ")0@1/ HH B/ N/80'1 N

X

4 33 @(=47)? =2*?3 4*2 : 7')399 ,47 *3(' :7 +3 2*?' :7 +3 T: 45 +'9 /47 93' ! +3 9/2*' 9 4 (+2? ' 3@*'3 4 79B!'5 53?'2 3)(' 2*?!27 +3* '/2))(' : 45 +3 4)? 79/2*' 2**2)9' /4+ ?' *4 @3 <2'*92'?' @7 =47)? @3 ' 3/4*/')2@)3 =' +' 2))' +3! 39 4:' 4'''2*' +'9 4 ('G *4 =47)?' ')32?' 4 2*(' 397) 9' Q '' =+')3 =3 2E3 '* 4 2//47*' +2 7 '2 /4* '*73?' 4 :)47 '9+' 7* ')' +3 '53 4:' ())2 =' +47)49'*< +3 *2 '4*2)' '*?363*?3*/3' =3 52(' 2)94 3<2 ?' ' 29 /3 2'*' +2 ?7 '*< 2))' +2 63 '4?' +3 3 =29 2 97//399'4*' 4:' 2**2)'9 9' !J254*< =+45 29 254*< +3 452*' +3)2 3 2)=2(9 E*3=' 54 3 +2*' +'9!' 6 3?3/3994 9' =' +47 +2;'*<!2*(' : 39+' 947 /39 4:' '*:4 52C '4*' +3 3;3 ,7?<353*' =29 3R7'9' 3)27?'79 =29' '*/262@)3 4:'3A3 /'9'*<' 'G 2*?' 976649'*< +2 +3 2*/'3*' 2)3 4: +3 :2' +:7)' 2*?' 63 93;3 '*< 29 2 *209 3 ' '*< 4 453 +2?' @33*' 2 2/+' 4 3 ;'79B 7))' 9 + 47<+' *2 '4*2)' ;2*' (' @(' 2*(' 79/2*' = ' 3 ' +4=3;3 ')2 3 +'9 2<3' 4 ' 2 @' 2 (' +'9 6 4/3?7 3)27?'79 =47)?' +2;3 @33*' 7*2@)3 4 ?'9 '*<7'9+' +'9 : 45 2 <3*7'*3 2?' '4* 'B=')' *4 '64 3 2*(')4*<3 ' 4;3 ' +393 R739 '4*9' +'9 36 393* 2 '4*' +4=3;3 ')'E3 +3 4 ?'*2 (' 4*3 4:' ' 2 B R7'*'79 '9/79' /)32)(' '56)'39 2 @3)'3:' +2 ' +3 3 =29 2 '53 =+3*' 453 3/3';3?' 79/2*' '*9 ' 7 '4*9 : 45 2 6 '*/3 4:' 5'2' 2*?' =29 +3 < 32 ' 2*?' 96)3*?'?' /26'C 2)' 4:' 2 64=3 :7)' 79/2*' 9 2 3 ' '/9' =+4 63 /3';3?' +2 ' 2 62 ' 4:' +3 3)'<'479 E*4=)3?<3 649939' @(' +3 452*9 +2?' 2*' 79/2*' /+2C 2/ 3 ' 29 =29 6 4;3?' @(' +3 6 2/ '/3' 3 2'*3?' ?4=*' 4)2 3 2<39' :4 ' +3 452*' (47 +9 4 9 7?('2 ' +3 947 /3 4:' 4 2)' 2?' '4*. ' 2*?' +2 ' 2)' +3 6 4:2*3 9/'3*/39 6 3;2C)3* ' 2 ' 453' @3:4 3 +3 '* 4?7/ '4*' 4:' 33E)' 3 2 7 3 =3 3 4:' 79/2*' 4 '<'* Y 2*?' =+4 @3)'3;3?' +3 3;'?3*/3 2::' 5'*< +2 ' 52*('4:' +3 64)' '/2)' '*9 ' 7 '4*9 ' 2*?' 3;3*' +3 *2539 4:' +3 2*/'3* ' '@39 I J ' /253 : 45 +3 9253

.' @4;3'5' /80'1' BB

0!8 2-/ 920'1:')*' "..Q/ :1' ' ' @ ' F ' 5 ' B ' 11 ' 5 ' / ?$ 7 3*`

947 /3BY =3 3)4*< 2<4)3? 4 +3 r45'/ '4+ +2 +3
79/2*9 =3 3 2B 57/+ 54 3 '564 2* 3)353* 4: +3
2*/'3* 452* *2 '4* +2* +3(' 2 3 92'? 4 @3 2)3J
@(' 2*(' = ' 3 9 +4=5 3A 2* //4 ?'*<)(' =+3* +3 2)3 4:
+3)@2* 4 '<'* 4: 453 +2? @33* 3A/)7?3? : 4 '6 +'9C
4 (' +3 B:' 9 @3* 4:' +47<+ '=29 4 29975 3)'2 ' ' =!29
2* 79/2* /4)4*(' 4 <4 +7 :2 2<2'*9 2))' 2*/'3*
27 +4 ' (' =29 54 3 +2* @4)?' 7 +3 0(+4 /4* 3*?9
2<2'*9 44 3? 6 3,7?'/39 ?'<<'*< 4 +3 @4 45 4:' +35
2*? 394);3? 4 7693 +3' ?45'*'4*' /2**4 6499'@)('
E336 P3* ' 3)(' : 33 : 45 3A/399 +3 '9 3? '* 4 ' '@('
+3 /4* 356 '@)3 2963/ '=+'/+ 3;3 (+'*< /4**3/ 3? =' +
+3 4)? 3 47 =32 9 '* +'9 3(39 4?3 2 '4* /2* 4*)('
/453 '* 2: 3 +3 ;'/ 4 ('9 2/+'3;3?' +3* '9 +3.' '53
4)44E '* 4 +3 3 4*3479 46'*'4* =+'/+ +2? 6 3;'479)(
@33* /7 3* :4 +493 :32 7 39 4:' 7 +=+'/+ +2? @33*
/ 79 3? 4;3 2*? +3 39 4 '*< +'9 7 + 4 +4*47
=+3* 67 ':'3? : @5 J+2 +2? 52?3 ' =4 +)399 '9 2 ?3C
)'<+ :7) 3=2 ?' 4 =+'/+ 2* +4*39 52* =')) ,4(:7))('
92/ ':'/3 +'9 +(64 +39'9
9 97/+ 2 3=2 ?' 39 335 5(' 63 9729'4*' '* +3
:' 9 6)2/3 +2 2 453 29 '* 7 '2' 2 ;3 (' < 32 62
4:' =+2 =29 3<2 ?3? 29 79/2*' /253 : 45 +3 (B
:+3*'2*9 2*? /4*93R73*)(' =29 @(' *4 532*9 :4 3'* 4 +3
2 '*9$ 2*? *3A +2 +2 463 2 '4* 4:' 79/2* '*:)7C
3*/3 764* 453 =+'/+ @(' +3 452*9 =29 /4**3/ 3?
=' + +3 <4;3 *53*' 4:' +3 :' 9 2 R7'*'79 @(' +3
79/2*9 =' + +3 93)353*' 4:' +3 2 5(' 4:' c)39 '9
3*47<+ 4 2//47*' '* 3))'<'@)(' :4 +3 39 G 94 +2 ' ' '9
*4 *3/3992 (' 4 ?3*(' +3 2 '* 9 4/E 4:' +3 :' 9 452*9
+2;3 <2'*3? +3 /4*;'/ '4* +2 /4*9'?3 '*< +3)2 3C
399 4:' +3 '539 =+3 c 3 =29 9 ')) 964E3* 4:' 29 +3
3)29<'2* <())2 ' 9 /4*R739 @(' +3 79/2*9 2*? /4*C
93R73*)(' +3' ' 2?;2*/3 4 +3 '@3 6 3;'479)(' 4 =+'/+
+3(' /47)? *4 +2;3 39 2@)'9+ 2 /4)4*(' 2 453 /2*C
4 @3 3:3 3? 4 ;3 (' 354 3 2<39$ 2? +2 @3:4 3
+3 '53 4:' +3 79/2*9 +3 2@'*39 =3 3 2 64=3 :7) J
T B

2 '4' '*' +393' 62 9' +3' 64'*' 4:' 549' '564 2*/3'
=47)?' @3' +2' +3' *2539' 4:' +3' '@39' =3 3' 79/2*' 7'
'9' '' 2' 2)')'E3)(' +2' +3' 3 (54)4<'/2)' 3A6)2*2 '4*9' <';3*'
@(' "4)*'79' =3 3' +266'3' 4' 9' 3' +2*' "2 409' 2 '*' 4*39' L'
3;3*' ':' +3' ?'?' *4' 2@793' +'9' 2?;2* 2<3' +2' *4' 6*3' =29'
/262@)3' 4:':4 5'*<' 2',7?<353*' 4*' =+2' +3' 92'?
+3' 79/2*9' 2' 4*3' '53' =3 3' 5293 9' 4:' 453'$
3;3*' ':' ' =29' 4*)(' ?7 '*<' +3' 6299'*<' /4*R739' @(' 4 B
93**2' 3 +269' 4*3' 4:' +g' + 33' 9 2 39' '*' ' 9' *3'<+@47 C
+44?' /4*R73 3?' +3' /' ('$ 4' +3' 2 5(' 4:' c)39' 4' 9453'
4 +3' 97/+' 39 2@)'9+' ' 93):' +3 3' +3' :4 53' *4 '4*'
2*?' +3' /4*,3/ 7 3' +2' 23 3' 6)2* 3?' 2' /4)4*(' 2' 453'
?3 ';3' /4*9'?3 2@)3' 6 4@2@')' (' : 45' +3' : 2*/+'93' 9+2 3?'
@(' 2*?' *2539?' 2: 3' +3' '*+2@' 2* 9' 4:' 23 3' 2*?' : 45' +3'
2:) *' (' @3 =33*' +3' 3)'<'479' =4 9+'6' 4:' +3' =4' 4=*9'
+3' /' 'H3*9' 4:' +3'<3*7'*3' 452*' /4)4*'39' +2?' +3' : 2*C
/+'93' 4:' 453' =' +47' 2' ;4 3'$ 2*?' 94' :2' 29' ' /47)?'
+2;3' 2*(' ;2)73' :4' 2' 452*' +3' +2?' +3' : 2*/+'93' 4:' +3'
/4)4*(' 2?' 2*('97/+' 4=*' * '75':4 '*9 2*/3' 4' 9 '2'
52?3' 93):' '*?363*?3* ' 2*?' < 4=*' 64=3 :7)' =+')3' 453'
92*E' 2*?' +2?' ' 9 '))' 3 2'*3?' ' 9' 2*/'3*' '*9 ' 7 '4*9'$ '*'
+2' /293' +3' '<+' 4' 97/+' 2' : 2*/+'93' +3 3' 5'<+' +2;3'
@33*'!?3*45'*2 3?' +3' '<+' 4:' +3' 452*9' ')'E3'
9 2 3' 4:' +'*<9' =47)?' =3))' 2//47*' :4' +3' 4 '<'*' 4:' +^'
c ' 3' : 2*/+'93' 2' 453' +3 3' 9' 2' <44?' ?32)' 4:' 6)27C
9'@')' (' 44' '*' +3' ?3 ';2 '4*' 4:' +3' =4 ?' ' : 45'
23 3$ 9)'<+' 29.'*' 97/+' 52 3 9' '9' +3' 27 +4 ' (' 4:' +3'
452*' < 2552 '2*9' =+4' <';3' ' ' *?' 4*3' '9' *2 7 2))('
32?(' 4' 35@ 2/3' +'9' 3A6)2*2 '4*' 4:' +3' :2/' +2' =+3*'
+3' 27)9' 2 2/E' +3' /' (' +3' 92/ 3?' 3297 39' 4:' +3'
452*' 9 2 3' =3 3' /4*;3(3?' :4' 3:7<3' 4' 23 3'.'*' 6 3C
:3 3*/3' 4' 4 +3' 6)2/39' *4' 54 3' 354 3' ')' 2))' +'9'
?439' *4' 2547*' 4' 2' 6 44:' +4' /2*' 3))' +4=' :2' +'9'
/4**3A'4*' =29' 2' /4**3A'4*' =' +' <())2' 2*?' +4=' :2' =' +'
23 3L' 39'?39' +3' ='9+' 4' '* 4?7/3' <3*7'*3' 79/2*

)2=9 =47)? +2;3)3? 2* 79/2** 94;3 2'** 4 93*? :4 6 '39 9 2*? 32/+3 9 : 45 +3 *32 39 / (' 4:' +'9 4=** 6346)3$ +79 2 63 52*3* ' '* 3 /47 93 @3 =33** +3 4C 52** 2*? 26 ' 3 6 '39)'4?:" 5'<+ ' @3 39 2@ 9+ G 2*? 2 /45 57*' (' 4:' : 2*/+'93 3A'9 3? 2 .' '539 3;3** =' + 2 4 2))(' :4 3'** 2/3 +3 /)493 7*'4** @3 =33** 453 2*? 2 '75 .' +3 /4*9 ' 7 '4** 4:' +3 /3* 7 '39 =+'/+' =29 2 4*/3 /4554** 2*? 63/7)'2 4 +35 2 3 2) 4<3 +3 '*/4562 '@)3 =' + +3 +(64 +39'9 4:' 2** 79/2** /4)4*('$ @7 52(' @3 3/4*/')3? =' + +2 4:' 2 ;3 (' 64=3 :7) 2/C '4** 4:' 79/2** '*:)73*/3 :' 2*(@4?(' 6 3 3*?9 +2 +3 /2** ?3/'?3 =' + /4*:'?3*/3'** R739 '4*9 4:' 97/+' 4@9/7 ' ( )3 *4*3')'9 3** 4'+'5'.

+3 =2* 4:' 2*(' +'9 4 '/2) '*:4 52 '4** =' + 3<2 ?' 4 +3 79/2*J ?45'*'4** 2 453 ?439 *4 2 '93 53 3)(' : 45' +3 9253 <3*3 2) /279^9 @(' =+'/+'+'9 4 (' +29 @33** ?39 4(3?' 2*? 63 ;3 3?' ** '539 =+3** *4 = ' 3** ?4C /753* 9 3A'9 ' '** 2'!63 52*3* ' :4 5 ' 2' 6346)3 +2 +29 ?3)';3 3?' 93):' : 45' 2' :4 3'** (4E3 933E9 4' @)4 47 +3 5354 (' 4:' ' 9 +2;'*< 3;3 6'*3?' '** 93 ;' 7?3' +79 2: 3 +3 3;';2) 4:' 2*/'3* ')' 3 2 7 3' +3 2)'2** +'9C 4 '2*9' 29+253?' +2 +3' ' /47* (' 9+47)?' @3 <4;3 *3?' @(' @2 @2 '2*9' :2@)3?' +2 2 939 +2?' ? ';3** +3 4 +9' +2)352<*3 +3 45+2 ?9' 47' 4:' +3 =+4)3 4:' 2)z' 2*?' +2?' 39 4 3?' ' ' 4' +3 452*9' 67 <3?' 4:' +3 9 2*<3 9 2*?' 4:' +3' ')2=9

+3 9 4 (' 4:' +3 ?32 +' 4:' 3 ;'79 T' =+'/+' +29)';3?' :4 =4' +4792*?' (32 9' 2*?' =')))';3 29)4*< 29 2' 3/4)C)3/ '4** 4:' +3 452** E'*<9 3*?7 39' 52(' @3 29 ?3;4'?' 4:' +'9 4 '/2) 7 +' 29 +2' +3 79/2** /+'3:' 29 252' =29 +3 94** 4:' / '9'2C 7))'20 / '539 52(' @3 *4')399 '52C <'*2 (' +2** +493' 4:' 2?(' 2/@3 +' 7' +79 57/+' '9

>' 0' 28:1.-'"8:' ',1'60.170 87'5"."7."5,-/',1'.1":1.'-,02!:')1' "+".1' ',"" '! 1' "2',0.' 8')-'6.-" 1: ' 08 8(! 81:'-'.087!*' '0'-2550-1' ',"" 041' +"-'06' '.2-("8'0. 7 8/ "8:' 1@18' -'".'1:' ',1' (08I1('2.1' ',"" " 4 7,") 1/"" (0!08** 6.04' '1.1

' T'

'*:2))'@)(' /3 2'*' +2' +3')2=9' 4:' +3' 52*' =+4' /2))3?' +3'
/45 54*9' 4' : 33?45' =3 3' :4' +3' 549' 62 ' 3*?3 3?'
2@4 ';3' +3 +3' +'9' /47* 3 B 3;4)7 '4*' 4:' +3' 62 'C
/'2*9' =29' 3::3/ 3?' @(' 53 3' ' 32 9' 2*?' 2' / 2: (' 797 62C
'4*.' 4:' 64=3 ' 4' =29' 2 3*?3?' 'J' +' @)44?9+3?' 2*?' 2 4C
/' '39' '9' 4:' ;3 (')')3' '564 2*/3' +3' :2/' 2*?' ' 9' : 7' 9'
2 3' 3/4 ?3?' '*' +3' 2?' '4*' 29' +3' 3'<*' B4" 2 R7'*'79'
+3' , 2*

' +3' 4 +3 ' +2?' +493' =+4)394 53')2=9' +3' 63 :33 B'
'*<' 4:' +3' 9 2 3' 2*?' +3' /456)3 '4*' 4:' +3' /' (' =+'/+' 6 3C
9766493' 2*' 32)'3' /4*?' '4*' 97/+' 29' 52(' 26)(' +3' 3 53?'
+3' 457)32*' 9+3?' <)4 (' 4;3' +3' 3'<*9' 4:' +3' :' 9'
2 R7'*'79' 2*?' 4:' 3 ;'79' +3' '*;39 '<2 '4*' 4:' +393'
64'* 9')32?9' 53' @2/E' 2<2'*' 4' 9453 +'*<' +2' '9' 32))('
+'9 4 '/2)' 2*?' 9 2*?9' 4*' 2' 97 3' @29'9

\

‘ ‘ %‘ ‘ &

‘ :39 ‘;2)‘ 4:‘ 36 ‘54* ‘75‘ 6 393 ;3?‘ +3‘ 3535.‘ @ 2*33‘ 4:‘ 2‘ ‘53‘ =+3*‘ +3! J26‘ 4)‘*3‘ w7‘ ‘*2)‘ 2*?‘ “ ‘B‘ 5‘*2)‘ +‘))9‘ =3 3‘ *4‘ (3‘ ‘*/4 64 2 3?‘ =‘ +‘ 45 36 +7‘ +3‘ 39‘ 4:‘ +3‘ /‘ (‘ =‘ +‘ +3‘ 3A/36 ‘4*‘ 4:‘ +3‘ ;3* ‘*3‘ =+‘/+‘ =29‘ 2*?‘ /4* ‘*73?‘ 4‘ @3‘ 2‘ @4 47<+‘ :4 53?‘ 2‘ 7*‘ 3?‘ /‘;‘/‘ /45 57*‘ (‘ 4‘ +3‘ 3A 3* ‘ 2: 3 =2 ?‘ 3*/)493?‘ =‘ +‘*‘ +3‘ =2))‘ 4:‘ 3 ;‘79\IV‘ ‘ /4*9‘9 3?‘ 4:‘ 93;3*‘ ?‘9C ‘/ 9‘ =+‘/+‘ 9 ‘))‘ 3 2‘*3?‘ 32/+‘ ‘ 9‘ 4=*‘ +4)‘?2(9‘ 2*?‘ 92/ ‘:‘/39‘ ‘*‘ +3‘ 2<3‘ 4:‘ ‘@3 ‘79‘ G 2)2 ‘75‘ “3)‘2‘ 3 52)79‘ . . !‘ 23)‘79‘ %?J7 2)‘ 66‘79‘ ‘96‘79‘ 4‘ +2‘ 3;3 (‘ 4*3‘ 4:‘ +393‘ 6)2/39‘ +2?‘ 2‘ /)2‘5‘ 4‘ @3‘ /2))3?‘ 2;+‘))‘ *3‘ 7*R739 ‘4*2@)(‘ 2*?‘ 63 +269‘ 2‘ 93/4*?‘)2(‘ ‘*‘ +3‘ 6)2‘*‘ 2‘ +3‘ :44‘ 4:‘ 2‘ +‘))‘ +3 9‘ =3 3‘ +‘<@ 9

>0 “..Q‘S @‘D‘5‘ #/‘ “((0.: 87‘ ‘0‘ ‘,1‘ !0.18‘ 81‘ /‘ (08-G :1.-‘ 15‘ 408‘ 24‘ “-‘ ‘,1‘ “8(18‘ 8“41‘ 06‘ ‘,1‘5!“(1‘+,1.1‘#,1‘(‘*‘ “6‘1.+“.:‘“.0-1‘? %,‘828(‘1-‘ 04‘“ 15‘ 408‘ 24

,1‘ 414)1.-‘06‘‘,1-1‘72 !:-‘42-‘)1‘‘,1‘ ‘+,0‘ “551“.‘ 8‘ ‘ 1‘ :1(!“4“‘ 08‘A ‘ ‘ SB #‘? 82!!24‘ 1-‘ 8‘ ,“(‘2.)1‘ (0!G !17 24/82%‘5“7“8/“2“ ‘ ,1‘ ‘ (“880“ 50--)!*)1‘“!!2:1:‘‘0‘ 8‘, -‘5!“(1

U‘ ,1‘-51!! 87‘‘, -‘8“41‘+‘,‘ “‘ /80“ “‘C/ -‘1-‘“)!-,“)* 1-‘2-/)*‘‘,1‘ !0.18‘ 81‘ ‘06‘ “..Q/“8:‘)*‘H!2‘“.(,/ 042!‘(‘ ‘3‘ ‘,1‘‘1.4 8“‘ 08‘ ‘80“ ‘)*‘‘,1‘15 ‘041‘06‘ 1-‘2-

‘ U‘ 1-‘2-/‘ 15‘ 408‘ 24‘ 1-:1‘‘,1-1‘,1‘“!-0‘418‘ 08-‘‘,1‘ 2)2.“U‘,“‘* -/ 081‘: -‘. (“ 40.1‘‘,“8‘-1@18‘ , -‘,0+1@1.‘+“-‘ ‘,1‘ ‘ 0.‘)1!0871:‘‘0‘ “‘? ,18(1‘‘,1‘ 2)2.“8-‘+1.1‘ ‘80“ ‘ ,1*‘4“*‘,“@1‘‘“D18‘5“.“ 8‘(1!1).“‘87‘‘,1‘ 15‘ 408‘ 24/6.04‘)1!087 87‘‘0‘‘,1‘!)1.‘1-‘06‘ 2(18 4/80“ 06‘ M2.24

?3) 4)49934 2@7 3? 4* +3 547*? ;L+'/+ 6 4 3/ 3? +3 2 '*c * +3 ;2))3(@3(4*? 7*?3 +2 547*?)2(7@7 2 =+'/+ =29 +3* 2 ;'))2<3 +3 '96'79 2*? +3 c)'2* =3 2 3 4 9766493 =3 3 9 3*< +3*3? 2: 3 +3 2*/'3* 2)'2* 53 @? @(9 3363*'*< +3 9'?39 4: +3 +')) 2*? =+3 3 +3 < 47*? ?'? *4 2))4= 4: +'9 @(2 =2)) 2*? ?' /+ +3 ;3* '*3)('*< '*97)2 3? 2?C 5' 3? 4: @3'*< 329')(:4 ':'3?

+3 62 549 '* *33? 4: ?3:3*93 =29 +3 :)2 @3C =33* +3 2)2 '*3 2*? +3 c)'2*!:4 +'9 =29 +3 4*)(6)2/3 =+3 3 +3 3 =3 3 463* 6)2'*9 9 +3 < 47*? 2@47*?3? '*)2*?96 '*<9 2 542 7**'*< : 45 +3 3?<3 4: +3 ;3* '*3 4=2 ? +3 *3'<+@47 +44? 4: +^ s 2 263*2 ' 93): 9766)('*< +3 32 + :4 2 =2 =29 +3 :4 ':'/2 '4* =+'/+ *2 7 3 64'* 3? 47 +'9 =29 +3)'*3 4: +3 2 2*2 4 ?' /+ 4: +3 w7' ' 39 53* '4*3? 254*< +3 =4 E9 4: */79 l . 3 3 2)4*3 /2* ' @g)44E :4 @(2*(4*3 =+4 /2))9 4 5'*? =+2 =29 +3* +3 9 2 3 4: +3 /' (2*? *4 764* +3 6)2'* =+3 3 +3 =2)) 4: 3 ;'79 =29 2: 3 =2 ? 3 3/ 3? :4 +3 w7' '*2) 2*? " 'B 5'*2) ?'? *4 (3 :4 5'62 4: 453

+3 39 2@)'9+'*< 2)4/2) /45 57*'/2 '4* 4 7*' 3 36B '54* '75'=' + +3 +'))9 4: w7' '75' 4* @< 4*3 9'?3 2*? 4* +3 4 +3 =' + +3 ;3* '*3 =29 +3 @3<'**'*< 4: 2 *^=' /' (/45 53*/3? =' + +3 @7')?'*< 4: +3)42/2 2A'52 =+'/+ /2 '3? 4: +3 /4))3/ 3? =2 3 9 4: +3 " 3B)2@ 75 2*? =+'/+ ' 9 :47*?3 52?3 4: 97/+ ?'53*9'4*9 +2 ' ' /47)? 3/3';3 9 ')))2 <3 2::)7A39 ' +47 3*C / 42/+'*< 4* +3 ?452'* 4: 452* 464< 26+(2 +'9C 4 '2* 52(3/4 ? 4: +'9 29 4*'9+'*< 9 7/ 7 3 +2 ' 9

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"..Q/ 8' ,1-"41 5!"(1 ,L, 28 2--(.) '/ ") 10 920: 621. " ,L'"8' 92"", L = 920:-2)1-"1 !0(0 92 '1..12- 4 2.2-@0 ("'2. 1:170 "5"70 50' 2- , , : ('24 52'0 , , H" 72- , , , 920: , , - ". 8 -

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'**3 549 ;27) 'g 2 935'/')3 452*62)59 '* ='? + 2*? '*+'<+ +$ +2 +'g 'g '*/)493? =' +'* 2 93/4*?2*? +'g 2<2'* =' +'* 2 +' ?$ 2*? +2 +3(2 3 2)) :4 53? 4: +3=* @)4/E9 4: 6 [62)59)4*< 2*? XJ +'<+ :'A: 4<3 +3 =' +47 /353* +'g ';3 B)'E3 93=3 ?'9C /+2 <39 '* 4 +3 '@3 + 47<+ 2 94 4:<2 3 '* +3 R72($ =+'/+ 'g '* +3 9253 9 ()3 4:2 /+' 3/ 7 3 2*? 579 +2;3 @33* 3 3/ 3? 2 +3 9253 '53$:4 ' ?259 4:: +3 ';3 : 45 +3 "3)2@ 75 =+'/+ =29 3?3353? : 45 ' B +'g)42/2 97::'/3? 4*)(:4 +3 "3)2@ 75 2*? +3 ;2))3(4: +3 ' /79 %2 54 3 3A 3*9';3 9 7/ 7 39 =3 3 3R7'9' 3 4 /4*;3(' '* 4 ' +3 =2 3 9 ? 2'*3? 4::: 4'* +3)2*? 2@47 +3 %4 759 2*? +3 7@7 2 4C <3 +3 =' + =+2 /253 ?4=* : 45 +3 +'))9 *? 2 ;27) *4)399 29 4*'9+'*< +2* +3 4*3 ,79 ?39/ '@3? =29 ?'9C /4;3 3? ?7 '*< +3 3A/2;2 '4*9 '* +3 (32 kX \. I 62990 '*< 4::: 45 +3 "3)2@ 75 7*?3 +3 45' '75 2*? +3 %4 75 29 :2 29 ? '2*4 X 62)59'@3)4= +3 6 393* 97 :2/3 +3 *2 7 3 4: +3 < 47*? 6)5*)(9+3=9 +2 ' 5'<+ @3 2/3? : 45)'3*/3 7*?3 +3 %4 75 4: 7C <79 79 Z 76 4 +3 7@7 2

+3 62 4:' +4=3;3 +3* 7*/4;3 3?' @3 =33* +3 %3*') 2*? J? '2*4 579 @3 4:2 57/+)2 3 j<3 +2* +3)42/2'* +3 "3)2@ 75 %4 %'/4 4*' 2* 3A 353)(39 '52@)3 27 +4 ' (53* '4*9 4*)(' /7 94 ')(' ' 'g 73 Y @7 +3 =29 2* 3(3=' *399 2*? /2**4 +2;3 793? 2 = 4*< =4 ? +3 3 Y +2 ' ' =29 @7') 4: $ &2*?

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'*< +3 93=3 9 ' %4 ' 93=3 9)'E3 +493 =3 *4= 933 '
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47 ' 4: ' 9 6)2/3$ 2*? :4 ' 3* +4792*? (32 9 4 /453
+493 ;27) 9 =') 9 2*? 7*'*,7 3? 29 2 ' +'9 ?2(' 7 '
': '* +3 - 445 ' 4: 2* '563 :3/ ' 9 7/ 7 3 *33?'*< 3C
62' 9 ' +3(' 97@9 ' 7 3? 2* '*?39 7/ '@)3 4*3)'E3)'2 ' 4:
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:)4=3? '* 4 +3)42/2 2A'52 ' '9 3;'?3* '6 94 6 4@2@)('
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/+2*<39 2 3 @ 47<+' 2@47 +2* +3 9 2 353* =+'/+
'*/)7?39 +2 ?47@)3 +'))2 254*< +493 :' 9 2E3*' '* 4 +3
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'*< +3 4))'*3 3<'4*' =' + +3 9R7')'*3 =29 94 3* ' 3)('
?363*?3* ' 764* 2*? +3 /4*93R73*/3 4: 97/+ 2 =2)) +2
+3 3 2<2'* ';(' =+4 :4))4='*< 4)?3 2//47* 9 /2))9 3 C
;'79 ' 9 @7')?3 6 4/33?9 =' + 57/+ 54 3 /4*9'9 3*/('
+2* #'4*(9'79 2*?)'*(' =+4 29/ '@3 ' 4 2 R7'*'79
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AA$ @*/ ' j j$: : : 20- (0%1-/ M2 . 8"!14/ 4 8"!14921
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+3' 4))'*3' 4' +3' 9R7')'*3'<2 3'93;3*' 9 2?'759' 4'93;3*'
3'<+ +9' 4:' 2' 5')3' 7' 4:' 2' 542' 2@4;3' 2' +7*? 3?' :33'
@ 42?' 2*?' +' (' ?336' Y :4' +3 3' '9' *4' 9 4*3' +3 3' 4*)('
QQ \'=29' ?93?' 2' =2))' :': (' :33' ='?3' 2*?' /4*C
93R73*)(' 2@4;3'-9'A (' +'<+' :2/3?' 4=2 ?' :'3' 542' =' +'
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4))'*3' <2 3' =29' 9' 72 3' =+3 3' +3!w7' '*2)' +2?' 2) 32?('
97*E' 4' 2' :)2')3;3)$ 2*?' 2' 9'5')2' =2))' /4**3/ 3?' '' =',+'
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+3' "'5'*2)' 2' +3' '53' 4:' '9' @3'*<' 2E3*' '* 4' +3'
/' (' 93359' 4' +2;3' @33*' 3* ' 3)(' 7*/7) ';2 3?' 2*?' 4;3 C
< 4=*' =' +' 49'3' +'/E3 9',' =+3*/3'' 9' *2533$ 29' +2'
4:' +3' 9R7')'*3' /253' : 45' ' 9' 42EB=44?9 I I' +'9' 3*C
)2 <353*' =29' +3' '?32' 4:' 2' 5'*?' +2' 79 3?' '*' +3'
3 3 *' (' 2*?' +3' ?39 '*'39' 4:' +3' /' (' 2*?' =29' 6 362 '*<'
2' =2(' :4' ' 9' 2?;2*/3' 3' 2 3' *4' 4' 9766493' +2' 2'
3<7)2' 4=*' 3A'9 3?' '*' +3' 62' *32' +3' =2))' '))')4*<'
2: 3' 3:4 3' '' 2 493' +3' :4 ':'3?' 3*/)497 3' 3/3';3?' +3'
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2' 92:3' 6)2/3' 4:' 629 7 3')'E3' +3')4*<' =2))9' 4:' +3*9'
39'?39' +3 3' '9' 9'*<7)2' /4 3/ *399' '*' '/3 409' 3A6 39C
9'4*!' +2' 453' 9 2*?9' 4*' 2' +32) +(' 964' '*' +3' 5'?9'
4:' 2' 639 ')3* '2)' /47* (I.' +3' 2' '*!' +3' *3'<+@47 C
+44?' 4:' 2*' 4 3*H4' 579' +2;3' @33*',79' 29' *4A'479' '*'
97553' +3*' 29' *4=G' *2(' 3;3*' @3 =33*' +3' =2))' 4:'
3 ;'79' 2*?' +3' 6 393*' =2))9' 4*' +3' 9R7')'*3' 2*?' "'B'
5'62)' :'3)?9' '' '9' 7*+32) +($ 2*?' +3' /47* (:4)E' +3*

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=2))9 /253 ?4=* : 45 ' 2*? 32/+'*< 4 +3 '@3 /4;3 3? +3 @ '?<3 '9 7 3)(3 4*3479 +3 @ '?<3 =29 47 4: +3 /' (IZ +3 =2))9 9 3 /+ : 45 +3 2 63'2* 4/E 2)4*< +3 ;3* '*3 @3 =33* +3 ' /79 2*? +3 ';3 2*? 52(9 '))9 @3 2/3? =+3 3 2 /4* '*7479 '?<3 4: 7@C @'9+ /7 9 2/ 499 2)9 +3 2))'39 '* +3 "3)2@ 5

+393 =4 E9 2*? +3 @7')?'*< 4: +3 26' 4)'*3 35C 6)3 <';3 ' 39'9 '@)3 3;'?3*/3 +2 45 3 7*?3 +3)2 3 E'*<9 =29 +3 /26' 2)9 4:2< 32 9 2 3

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+3 549' ?'::'/7)' 64'* ' +4=3;3 ' '*' +3 =+4)3 32)(' +'9 4 (' 4:' +3 /4*9 ' 7 '4*' '9 +3 :4 52 '4*' 4:' +3 + 33 *3='/3* 7 '39 2 '@7 3?' 4 +3 9253 E'*<C 2*' '**4;2 '4*' =+'/+' @3'*< /4*:'*3?' 4 2*' 3*)2 <353* ' 4:' +3 457)32*' /4*9 ' 7 '4*' '9 6)2/3?' '*' /4*94*2*/3 =' +' +3 96' ' ' 4:' 97/+' 63 94*':'/2 '4*9' @3:4 3 +3 '53 4:' 3 ;'79B 7))'79$ =+')3 ' ' '9)2 3 ' +2*' +3 /2))'*< 76 4:' +3 7/3 39 '* 4 +3 93*2 3' @(' =+'/+' 2/' +2' /4*9 ' 7 '4*' 3/3';3?' ' 9 >/456)g 3 ?3;3)4653* ' :' +3 25*39' ' '39,' 2*?' 7C /3 39' =3 3 '*' :2/' /3* 7 '39 2*?' '@39 4:' +3 +47939' 2) +47<+' +3 4469 4:' +4 9353*' =3 3 2)94 /2))3?' ' +3 *253 4:' +3! '@3 +3(' @3)4*<3?' 4$ +3*' +3 /3* 7 '39 :4 53?' @(' 2 R7'*'79' 2*?' *253?' 2: 3' +3 4)?' 4*39' @7' 29 93/4*?2 (' 4 +35' =3 3)'E3='93 '@39 4:' +47939' 4' /47)?' 2*(+'*<)399 +2*' +3 ?39'<*' 4:' / 32 '*<

L /' '? 08 , -'-'"'1418"-11' ', 1' '1;"'0' 80'1' 11' 5'

3= /3 7 '39 47 4: *3= +47939 4 9 2*? 2)4*<9'?3 4: +3 4)? 4*39 <';3 4//29'4* 4 +3 3A 353 ;'4)3*/3 =' + =+'/+ 2;'79 466493? +'5 2*? 4 +3 5' 2/)3 = 47<+ '* 97664 4: ' ' 53 3 /+2*<^ '* 5')' 2 (' 2 2*<3B 53* 9 =47)? *3;3 +2;3 53 =' + 97/+ 7*@3*?'*< 3C 9'9 2*/3 3;3* : 45 +3 549 9 '::+3/E 4: 27<7 9 ! +79 57/+ '9 /)32 +2 +3 94;3 2'* ='9+ 4 :4 5' + 33 *3= '@39 4: +47939 62)(' 47 4: +'9 4=* 3 2'*3 9 62)(: 45 254*< +3 /45 54*9 2*? 4 *253 +35 2: 3 +',*B 93): 2*? +'9 : '3*?9$ 94 +2 +3 3 =47)? + J3 @33* 9'A 4: +35 4 '9 ')399 /)32 +2 7 2;'79 2/ '*< '* +3 96' ' 4: +3 4)? /' 'H3*9 =' +9 44? +3 E'*< 4 +3 7 *'49 2*? 3;3* /2))3? '* +32;3* 4 +'9 2'?! 29 +3 6 '*/3 =+4 /4*/3';3? +'9 6 4,3/ 32))(' 2 R7'*'79L 4 =29 +3 2* 79/2*L : +3 ('3)?3? 4 +3 39'9 2*/3 4: +3 *2 '4*! +3 /3 2'6)(' /2**4 @3 3<2 ?3? 29 2 /4*C R73 4 7 '* =+2 93*93 2 ^ =3 4 7*?3 9 2*? +2 +3 ('3)?3?L 9'*/3 +3 9 ')) :4 53? + 33 *3= /3* 7 '39!$ =+'/+ @3'*< 7*' 3? =' + +3 4)? 4*39 7*?3 +3 *253 4:V +3 9'A $ 47)';3? +3 /4*9 ' 7 '4* 4: +3 /)29939 97/+ 29 ' /253 : 45 +3 +2*?9 4: 3 ;'79 7) +9 <2'* +4= +2663*3? ' +2 +3 *75@3 4: +3 /7 '39 9 '))! /4* '*73? 4! @3 +' (' 29 '* +3 4 '<'*2) + 33 /3* 7 '39 4 '@39L +3* 2 R7'*'79 67 649 4 / 32 3 + 33 *3= '@39 +3 579 +2;3 '* 3*?3? 4 ?';'?3 +393)'E3 +3 :4 53 + 33 '* 4 +' (' /7 '39 2*? 4 39 2@)'9+ +2 *75@3 4: *3= 4*39 +'9 +4=3;3 ?'? *4 2E3 6)2/3 ! ! +3 3 2 3 4*)(' =4 976649' '4*9 ' 93359 4 53B =+'/+Q/2* +3)6 79 4 94);3 +'9 3*'<52' 3 52(' 29C 9753 +2 +3 4 '<'*2) + 33 +7*? 3? +47939 9 ')) 3A'9 3? '* +3' :7)) /456)353* $ 2*? +2 +3 9253 *75@3 4: *3= 4*39 =3 3 3' +3 :/4053? !4 @3'*< 2) 32?(' '* 3A'9 C 3*/3 254*< +3 /45 54*9 =3 3 2?5' 3? '* 4 +3 @4?(' 4: @7 <+3 9$ 94 29 4 299'<* 3* *3= +47939 4 3;3 (' /7 (+3 *7'+@3 4: +3 /7 '39 352'*'*< 29 @3:4 3 @7 '*2957/+ 29 32/+ /7 (' =29 *4= ='/3 29 *753 479 4*)(

:';3 /7 '39 '*9 32? 4: 3* @3'*< 3/E4*3? 4 2 /3* 7 (=+'/+ 3;3* +7 =47)? /4* 2'* 2 +7*? 3? +47939

  ' 57/+ 54 3 6 4@2@)^ +4=3;3 +2 =+3* +3 2) 3 2 '4* 44E 6)2/3 +3 +47939 +2?)4*< :2))3* 9:'4 4: +3' 4 '<'*2) *75@3 %4 3;3 (3A/)79';3 2 '9 4/ 2/(=+'/+ ?439 *4 36)2/3 97/+ +47939! 2 @3/453 3A '*/ ?'39 2=2($ 2*? =' + 6 3/'6' 47 26'?' (K ': ' @? 9 / '* '*9'9 '*< 4* 67 ' (4: ?39/3* $ 94 +2 ' 5 79! 9'*E '* 4 2* 466 399';3 2*? +2 3? 4)'<2 /+(l l . 4='976649C '*< +2 94 53 +2): 4: +3 +47939 =3 3 @3/453 3A '*/ +2 32/+ /7 (4* 2* 2;3 2<3 *4)4*<3 /4* 2'*3? 54 3 +2* :';3 +3* ': +3 352'*?3 2547* '*< 4 2@47 2 +7*? 3? 2*? :': (=3 3 /4))3/ 3? 4<3 +3 '* 4 +2): +3 *75@3 4: +3 4 '<'*2) /7 '39 2*? +3 ;2/2* :': 33* =3 3 :'))3? =' + *3=)(2?46 3? +47939 +3 2*/'3* 6 464 '4* 4: 3* +47939 4 2 /7 (352'*3? 7*?'9 7 @3?

  ? +'9)2 3 +(64 +39'9 '9 /4:' 53? 2*? 2)549 39 2@)'9+ @(+3 9 2 353* +2 2 R7'*'79 ?47@)3? +3 93*2 3 2'9'*< ' 9 *75@3 : 45 4 $,79 29 +3 ?47@)'*< +3 /2;2) (2*? +3 /3* 7 '39 '9 29/ '@3? 4 +'5 *)(+3 3 =4 /+2*<39 2 3 /4*:47*?3? @3 =33* =+'/+

1 "8*081 (045".1 ! -'-06 ',1 6"4 ! 1-06 6.11,0!:1.- 8 "8* C1.4 "8 5.0@ 8(1 -1@1.: ,28:.1: *1".- "70 "8: " " 5.1-18' 0.G 41.!*' ,1* +1.1 " (08- :1.")!1 50.' 08 06 ',1 +,0!1 6.11 .2-' ('5"G 52!"' 08 ,0+ 4 "8* 8 " ,28:.1: ".1 ',1.1 80+ 8 ',1 -"41 5.0G @ 8(1 +,1.1 " 5". 06 ',1 7"5- ,"-80)118 6 !!1:25)*6"4 ! 1-06 -'."871 - -1''! 87 "4087- ',14/0.)*' ,1 . -1 06 81+ 6"4 ! 1-6.04 "4087 ',1 0!: 8,") '"8'- 8:"6'1. "!!+," ,"-)118 6 !!1:25 -80 40.1 ',"8 " -4"!! 5". 4087 ',1 "8(18'-/ 8 ',1 CC? (02.-1 06 ', 87 /J .15!18 -,418 06 ', -0. +"- 450--)!1

,1.1 ".1 0! 7".(,-/ +,0 .17".: ',1 -,".1 06 ',1 ". -'0(."(* 8 ',1 ":4 8 -'."' 08 06 70@1.8418 "- " +,1.1 ',1 '0""! 5.0G 51.'*)1!087 87 '0 ',1 -2.@ @1.- (08' 821- 28(,"871:/"8: 1@1.* 8U : @ :2"! 6 8:- , 4-1!6 "!! ',1)1''1. 066/ ',1 40.1 06 , - (04."1:1- ,"@1 :1: "+"*

8 k1"!"8: ',1 80)!1- +1.1)1(041 +,0!!* 1;' 8('? 8 0!!"8: ',1* +1.1 -0 + ', 8 602. 0. 6 @1 6"4 ! 1-7 ',1 6.11 51"-"8'.* 8 80.',1.8 0!!"8: +1.1 80 ":4 ''1: 8'0 ',1 -'"'1- 18(00',1 '0+8-06 81(1-- '* "(92 .1:1;(!2- @1 50--1-- 08 06 ',1 70@1.8 4 186

2' /4*9'?3 2@)3' '* 3 ;2)' !4*)?' 6 4@2@)(' 3)2693' :' 3;3 (' +4793' +2?' 2' 535@3 ' 4' 36 393* ' ' ' +3' 93*2 3' 4:' +3' :'"9' =4' 39 2 39' 2: 3 ' 52*(' 4:' +3' +4793' +2?' @3/453' 3A '*/ ' /22' *4')4*<3 ' +2;3J' 2547* 3?' 4' =3' +7*? 3?6 2*?. +3' +' ?' 39 2 3' 2)94' 579' +2;3' @33*' 7*2@)3' 4' ?3V 67 3' 2' +7*? 3?' 93*2 4 9')4*<' @3:4 3' ' 9' /47*/')' =29' '*6 /4 64 2 3?' =' +' +3' 976 353' 4*3')'3' /2))'*<' 76' 4:' +3' 7/3 39' +3 3:4 3' =47)?' @3' :2' : 45' 2'9'*<' +3' 93*2 3' 4' + 33' +7*? 3?' 29' ' ' =47)?' +2;3' ?4*3' ':' +3' /456 6)353*' 4:' +4793' +2?' @33*' :7))6 2*?' =' +47' =3'<+'*<' +3.'*75@3'6' 44' 5'*7 3)(' =3' 52(' /45@'*3' +3' =4' 9 2 3C 53* 9' =+'/+' 36 393*' +3' 93*2 3' +3' 4*3' 29' +2;'*<' @33*' '*/ 329'@(' 2' +7*? 3? ! +3' 4 +3 ' 29' +2;'*<' @33*' ?47@)3?' +3' :4 53' @3'*<' 3::3/ 3?' '*' /4*:4 5' (' 4' +3' 4 '<'*2)' 6)2*' 4:' +3' /4*9 ' 7 '4*')'3')2 3' @(' / 32 '*<' +3')' 33' *3=' /3* 7 '39')'3' :' 9' 4:' +393' 53297 39' 579' +2;3' @33*' +3' 32)'3 $ @7' +3' 93/4*?' 44' 579' +2;3' 6 3/3?3?' +3')3<'9)2 '4*''4:' 3 ;'79

3' 5'<+' 9 2'' 4*39' '*<3*7' (' '*' /4*9'?3 '*<'=+3 +3' +3' *3=' 3R739 '2*' /3* 7 '39' =3 3' *4')'E3)'3' +2*' +493' 4:' +3' +' ?' 39 2 3' 4' @3' /2))3?' +3')3993' 4*39' *' 97/+' ?'5' ='))'<+' 2))' 26632 2*/39' 2 3' ?3/36 ';3' ' 2 +3' '*C /)'*3' +4=3;3' 4' @3)'3;3' +2' 32/+' ?:' +3' 2??' '4*2)' /3* 7C '39' 9+2 3?' '*' +3' +4*47 9' 4:' ' 9' 3)?3' *25392E3$ @3/2793' +3' /4))3<39' 4:' 6 '39 9' /4* '*73?' 4' @3' :'))3?' 3A/)79';3)(' : 45' +3' =4' 9763 '4' 39 2 39' 32/+' 4:' =+'/+' 2664'* 3?' =4' /4 3964*?'*<' 4' ' 9' =4' /3* 7 '39' *')'E3' 52* @:' 2))' +3' 9'A' /3* 7 '39' =3 3' 36 393* 3?' @(' +3' 9'A' " 39 2)9' .

9 2/39' 2 3' *4' 6 44:9' @7' '*' +'9 4 (' 2 3' 9/2 /3)(' 4:')399' :4 /3$ 2@4;3' 2))' =+3 3' +3(' 3A+'@' ' 2' 62 2))3)' '*' +3' 6 4< 399';3' ?3;3)4653*' 4:' '*9 ' 7 '4*9' +3' :4)8' >)4='*<' '9' +3' +'9 4 (' 4:' 2' /4*9 ' 7 '4*' /4*9'9 '*<' 4:' /7C '39' 2*?' +47939' =+'/+' =')' 9+3=' +2' +3' /+2*<39' 2*?' >?3;3)4653*' 9' 97<<39 3?' '*' +3' :4 3<4'*<' 352 E9' 2 4' *4' 2 @' 2 ')(' ?3;'93?6 2*?' 9'*/3' +3' 6)2/3' =+3 3' +'9

/4*9 ' 7 '4*3A'9 3? '9 '* '52 3)(' /4**3/ 3? =' + 47 ' /)29C
9'/2) 3/4))3/ '4*9 +3 2//47* ' 4: ' ' '9 @(' *4 532*9 2)'3*
4 +'9 =4 E
 =29.2 6)329'*<B +47<+ ' 4: +3 3264)' 2*' ,7 '9 9'
+2 +3 E 4: +3' ' *2 ';3 /' (' +2? 2 '93*' 47 ' 4:- +3
33E 6+ 2 '39C 2*? ':' ' @3 2 ?3)79'4*' 4 ?3 ';3 +3
4)? 2*? 63 6)3A'*< *253 4: +493 @4?'39' E' : 45'
+3 33E :'/4A4' (3 ' ' '9 +2 ? 4 E336 4*393):' : 45' @3'*<
)38 '29 2(' @(' ' ' 2)) 3;3* 9 +2 ' ?3 ';2 '4*' 579'
4 ' 6299 :4 ' 54 3 +2' 2 ;3*3 2@)3' 35'*'9/3*/3' %4 '
97@9 2* '2))(' 2)) +2 ' =3 /2*' 3A63/ ' 4 :'*? '*' 26)39
7*?3 ' ' 9 ?7E39' 29 '*' 2)) +3 4 +3 ' : 33 /' '39 ?363*?3* '
764*' +3 53 * + 4*3 2 ' 4*9 2* '*46)3' '9 2 /4*9 ' 7C
'4*' 2 '9'*< 47 ' 4: +3 57*'/'62)' '*9 ' 7 '4*9B4: +3 =39 3 *'
356' 3' 2*' ' 2*?) +393 6 46 '3 2 '39' =+493
*4@')' (' /4*9'9 3?')'E3 +3 2 - 4: +3 33E9' '*' +3 3C
?' 2 (' @' + 2*? +3 3?' 2 (' =32) +' =3 3 3<'9 3 3? 2/C
/4 ?'*< 4 +3' ')'*32<3 '*' E' =+'/+ =3 3 /4**3/ 3?
=' + 62 '/7)2 '?'9 '/ 9 4: +3 /' (' 2*? =3 3 4: =4 E'*?9'
: +3 < 32 ' E' 2//4 ?'*< 4 +3 32)'39 ' 53* '4*' 4:'
+35 ' +3 3 =3 3 :47 ' 4 =+'/+ =4 =3 3 2: 3 =2 ? 2??3?'
+3 *75@3 ' 4: +3)3993 ' /2**4 ' @3 ?3 3 5'*3?' 9'*/3
+3(' 2 3 4*)(' 964E3u'4: '*/'?3* 2))(' ! +3 :4 53 ' 52('
@3 /4562 3? 4 +3 '@39' +3)2 3 ' 4P+3 /7 '39$ =' +
+'9 ?'::3 3*/3' 2@47 ' =+'/+ +3 3 /2*' @3 *4 R739 '4*'
+2 ' @4 + =3 3 463*' 4 3/3';3 *3=' /' 'H3*9' E =29
+3 2*/'3* ' *253 :4 ' +3' ' 6)2/39 4:' 29935@)2<3 4 ' /+25C
@3 9' +3' ' & @7 ' 7*?3 ' +3 E'*<9 4: +3 +4793 4:'
*,47 +3(' 4@ 2'*3? +2 ' 4: E)
+393 E'*<9 ' =+4 67 973? 2 9(9 35' 4:' < 47*?'*< +3' '
797 62 '4*' 4*' :37?2)' (' 2*? 2 5')' 2 (' *4@)399' /+2*<3?
+3 /+2 2/ 3 ' 4: +3 3264)' 2*' /' 'H3*9' @(' +3' ' 32?'C
399 4 @39 4=' E'<+ +44? 4*:J +3 =3))@4 * ' 2*? 3;3*' 4*'
+3 '/+G 2*? 9'*/3 +3 :4 3'*' *4@)39 =+4 39'?3? '*' +3.'
/26' 2) 44E /2 3 4 @3 3* 4))3? '*' +3 ' +3 /4*93C
R73*/3 =29' +2 ' 2 ' +3 '53 =+3*' 3;3 (=+3 3 3)93 +3
64=3 ' 4: +3 *4@)3 +47939 '*' +3 4=*9 =29 9'*E'*<' 2

26)39g 2*s 2 '9 4/ 2/(' 4:s +47939g =29g '* 4?7/3?' +3s *3=)('P2?5' 3?g /' 'H3*9g 579' +2;3s 3* 3 3?g '5 53?'2 3)(' '* 4s +3s 9'As < 32' E& :4' +3s)3993' < 2?72))(' ?'9C 26632 $s @3/2793' 29g '9g 3A6 399)(' 9 2 3?' +3s :3=s :25')'39g)3: '*s +35s @3/253s 3A '*/' !

+79g 4*)(' +3s 9'As < 32' Es 352'*3?$ 2*?g +393s @(' +3s 7*'4*s 4:s =4s =3 3s 3?7/3?g 4s :';3$s 6 4@2@)(' ='+s 2s ;'3=s 4:s <';'*<s +3s ;2/2*' 4*3s 4s +3s /45 54*2) ('2<2'*9' =+45' +3s '@39g 4*s @3/45'*<s *4@)3s +2?g @33*s 9+7 $s 2*?g =+4s '*s +'9g /47* (' /47)?g *4' 97//33?g '*s 39 2@)'9+'*<s 2*(+'*<s)'E3s /4 64 2 3s '79 ' 7:'4*9' =+')3s +3s E'*<9g =3 3s '*s *33?g 4:s +3' ' 2'?g 2<2'*9' +3s 7 @7)3*' *4@)' (

+3s :';3s *4@)3s Es =3 3s *4' 2@94)7 3)(' /)493?' 7' +3s 3/36 '4*s 3;3*s 4:s *4@)353*s =29g 94s 4@9 7/ 3?' +2' +3s *75@3' 4:s :25')'39g '*s +35s /4* '*72))(')3993*3?$s =+')3s +3 3s =29g 2s /4* '*72)s '*/ 3293s 4:s +3s *4@)39g =+4s 39'?3?g '*s +3s /' (' ='+47' @3'*<s 2?5' 3?g 254*<s +3s 535@3 9' 2*?!g =+4s (3' =3 3s 9763 '4' 4s 52*(' 4:s +35s '*s 2*Es 2*?g +4*47 9' ''9g '9g +3s 62 2))3)s 4s +3s 9 2 3s 4:s +'*<9g ' /4*/3';3s 4s +2;3s 3A'9 3?g 2' 453'=+3*s +3s 3:4 53 '=+45s 3 /2))s 2 R7'*'79g '9/79' =29g ?3C 9' 479g 4:s :4 5'*<s *3=s '@39' +3s)29 B53* '4*3?g :25'C)'39' 52?3s '* 3 39'=' +s +3s 62*'9+s)7*<9' +2' +3(' =!47)?g ;47/+92:3s 4s 3 3/' 2s *3=s &@7 ' = 3 /+3?g 2*?g 62) (' 29g =3 3s +3s 6 ';')3<39g 4:s 2s 3264)' 2*s 62 '/'2*s +3s ,32C)479(' 4:s +3s 4)'<2 /+(' 466493?g +3' ' 3294*2@)3s 3R739' 2*?g (3' =29g ,79' 29g 7*='))'*<s 4s 3/3';3s +35s 2*?g ?'9 'C @7 3s +35s 254*<s +3s 3A'9 '*<s E,)s *' /47 93s 4:s '53s +4=3;3'' '<2;3s =2('*s 9'*<)3s 3A/36 '4*9gC 2*?g +79g +'*<9g =3*' 4*' 7* ')s +3s 3;4)7 '4*2 ('<4;3 *53*' 4:s k\\' <4' '?g 4:s +3s E2*?g ' 2*?g +3s 39 4 3?g 4*3s 2;2')3?g ' 93):' 6:s +'9g '??2*/3'*4s)399s +2*s 4:s +2' 4:s 3;3 ('4 +3' /4 C 64 2 3s '*9 ' 7 '4*' =+'/+s 6 393* 3?g 3;3*s +3s 9+2?4=s 4:s 2s)'5'' 4s ' 9s 2 @' 2 (' 5') ' 29g 94s 57/+s <2'*s 4s ' 93):' *?33?g +'9g 57*'/'62)s /4*9 ' 7 '4*s +2?g)4*<s 9'*/3s @3/453

>s C "88081/ ; ; ' Bs
' '

' =4 +)39(2*?(463*' 4(2@793' *2(' 94(5'9/+'3;479' +2 '
' 9(;3*3 2@)3(4 '<'*' 3A/' 3?(*4('* 3 39' 2' +3('53(4:'
' 9(2@4)' '4*$ *4 ' '9(' 9( )49(*4=' :3)

J ;3 (' 63 94*' +2?(2(;4 3('*' 2(' =+4(@3)4*<3?(4(
2*(' 62 '/'2*' :25')(' 3* 4))3?('*' ' ' =+2 3;3 ' +'9(39'?3*/3(
5'<+ ' @3' *' :2/ ' +'9('*9 ' 7 '4*' =29(:2 ' 54 3(2(3C
6 393* 2 '4*' 4:' +3(@2 4*9(4:' +3(=+4)3(E'*<?45 ' +2*'
4:' +3(/' 'H3*9 ' 4 ' 3;3*' +3(*4@)39(4:' +3(/ ' (!

2?(26)39(@33*' +3(/26' 2)' 4:' 2562*'2(2)4*3$ +2?(
' 9(/4*9 ' 7 '4*')';3?(2*?(< 4=*' 3*)2 <3?(2*?(/456)3 3?(
' 93): ' '*' +2 ' /293(+3(' 4:' +3(6346)3(=47)?(+2;3(
@3/453(6)3@3'2*' '@39' '*! +3(9253(=2(' '*' =+'/+' +3!(
452*' /4554*9(4@ 2'*3?(2(/4*9 ' 7 '4*' 2*?(+3 3@('
57) '6)'3?(+3(;' 2)' 3*3 <'39(4:' +3(367@)'/

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'*' 2' 5299' 7*?3 ' +3' 6 4 3/ '4*' 4:' +3')2=' 2*?' 2?5' 3?'
4' +3' '<+ 9' 4:' : 3353*'6 54 3' : 3R73*)(' +'9' =29' ?4*3'
:4 ' 97/+' 29' 354;3?' '* 4' +3' /' (6' +393' =47)?' @3' 63 C
94*9' 4:' ;3 (' ?'::3 3*' 2*E' <3*)3' 2*?' 9'56)3' *')'E?'
52**3 ' : 3353*' : 45' :4 3'*' 6)2/39' /4**3/ 3?' @(' 2' /45C
57*' (' 4:' /';'/' 4 ' *2 '4*2)')2=' 2*?' @4*?53*' =+4' +2?'
4@ 2'*3?' +3' ' : 33?45' =' +' +3' /4*93* ' 4:' +3: ')4 ?9'
=3 3' 3/3';3?' '* 4' +3' /4554*2) ('6 94' +2 ' : 45' +3'
;2 '3 (' 4:' 3)353* 9' ' /4* 2'*3?' ' 9' *253' =29' :7))(' ,79 'C
:'3?' @(' ' 9' *2 7 3

4=' 9'*/3' 254*<' +3' 2*/'3* 9' /';'/' 2?39' 2*?' /4*2B
53 /3' =3 3' '*')4=' 367 3' =+')3' 2< '/7) 7 3' =29' '*' +3'
+'<+39 $' =+3 329' +3' 9/2)3' 4:' +3' ' 39 '52 '4*' ?7 '*<' +3'
5'??)3' 2<39' =29' ?' 3/)(' 3;3 9'$ ' ' /253' 4' 6299' +2' '*'
+3' :4 53 ' 63 '4?' +3' /4554*2) (' =29' 4: 3*' 52?3' 76' 4:'
+3' '*+2@' 2* 9' 4:' +3' ?452'*$' '*' +3')2 3 ' 4*' +3' 4 +3 '
+2*?' +3' *3'<+@4;7B'*<' /47* (' =29' 93)?45' 2?5' 3?' 4' 2'
:3))4=9+'6' 4:' '<+ 9$' @7 ' 2' /4554*2) (' 4:' 2 '92*9' 2*?'
2?3953*!' 4:' 2))' 94 9' < 3=' 76' =' +'*' +3' =2))9' +393'
=3 3' 563))3?' @(' 2' :33)'*<' 4:' +3' ' *3/399' '39' 4' 7*' 3'
'*' /4562*'39' =+'/+' : 45' +3' ')4/2)' /456 399'4*' ?3;3C
)46K' 2' :4 /3' 97/+' 29' =29' *4 ' 4' @30 :47*?' 254*<' +3' *52)'
6467)2 '4*' 7 ' 4=*<' 4' +'9' 63/7+2 ' (' '*' +3' ' *2 7 3'
+3' 3;4)7 '4*9' @(' =+'/+' +3' /4554*9' <2'*3?' +3' 7663 '
+2*?' '*' +3' 5'??)3' 2<39' +2?' 2*' 3* ' 3)(' ?'::3 3*' /+2C
2/ 3 ' : 45' +2 ' 4:' +493' =+3 3@(' +3' ?3579' 4 ' +3' ,')3@9'
254*<' +3' 2*/'3* 9' 2/R7' 3?' :' 9 ' :'B3?45 ' 2*?' +3*' +3'
9763 '4 ' (' '*' +3' 9 2 3' +3' /4*93R73*/39' 44' =3 3' 3*C
' 3)(' ?'::3 3* ' +3' <4;3 *53* ' 4:' +3' 2?3 9' 2*?' 52C
7:2/ 7 3 9' 52?3' +3' : 33' /' '39' 7=2)'E3' 29' 2/+'2;3)'
352 E9' =' +' 3<2 ?' 4' %)4 3*/3'6 +2 ' 4:' +3' /47* (B'
6346)3' 52?3' +35' @4)?' 2*?' :' 5 ' 29' =29' +3' /293' 2 '
53

9' 466493?' 4' +3' +47939 ' +3' ?35!79' +3' 6)3@9' 2*?'
+3' /4554*2) (' 2 3' +3' 9253' +'*<' 2*?' 4:' +3' 9253' E'*?'
*' 4 ?3 ' +4=3;3 ' 4' :4 5' 2' 6'/ 7 3' 4:' =+2 ' +3' 6)3@3'2*9'
=3 3' 2*?' 4:' +3' 9 2 '4*' +3(' 4//76'3?' 2)4*<9'?3' 4:' +3

/' 'H3*9')3 $ +3' 32?3 ' 2E3 Y 29' 2*' 329')(' '* 3))'<'@)3' '*C 9 2*/3' : 45' 254*< 2' 57) ' 7?3 Y +3' 3 ' 4 (' 4:' `7 '/+' @3:4 3' +3' /+2*<3' =+'/+' @ 47<+' +3' <4;3 *53*' '* 4' +3' +2*?9' 4:' +3' <7')?9' =+3*' ' ' 3R72)3?' +3' 6 393*' /2* 4*' '*' 3A 3* ' 2*?' =' +' ' 9' *4@)39' ' 9' : 33' 63292* (' 2*?' ' 9' /47* (4J;*9' /4*9 ' 7 '*<' 2' /4562/' =+4)3' =29' '*9362C 2@)(' 2 2/+' 4' +3' /' (' '*' 97/+' 2' 52**3' +2 ' =+')3' +3' +47939' :4 53?' 4*3' 62 ' 4:' +3' 9 2 3' +3' : 33' 535@3 9' 4:' +3' /45'*4*2) (' '*' +3' /' (' =3 3' 7*' 3?' '* 4' 4*3' @4?(' =' +' +3' /47* (:4)E9.

'))' +'9' ?'::3 3*/3' @3 =33*' 2' /';'/' 2*?' 79 '/' /45C 54*2) (' ?439' *4' ?39 4(' +3' 62 2))3)' '*' +3' +'9 4 (' 4:' +3' : 33' /4*9 ' 7 '4*9' ?7 '*<' +3' =4' <4)?3*' 2<39' 4:' /' '39' *' @4 +'!2<39' ' ' '9' +3'+'9 4 (' 4:' +3' /4*:)'/' @3 =33*' +3' 6 ';')3<3?' +47939' 2*?' +3' /45 54*2) ($' +3')2 3 ' :33)'*<' +2' ' ' '9' /453' 4:' 2<3' 2*?' '63' :4 ' 2' /4*9 ' 7 '4*' 2*?' 2' 9+2 3' '*' +3' <4;3 *53*' 8'" ,(46'20$ +3' :4 53' 9 ';'*<' 4' E336' ' ' '*' 97@,3/ '4*' 2*?' 93 ;' 7?3' +3' 9 7<<)3' =29' 7*3R72)6' :4 ' 2' 96 32?'*<' < 4='*<' 64=3 ' 3*/47* 3 3?' 4*3' +2 ' =29' 63*' ' '*' 2*?' ?='*?)'*<' 2=2(6' *4 ' +29' 2*( )''*<' @7 ' +3' 6 7?3* ' 793' 52?3' 4:' 945 3' /2972)' 2?;2* 2<3' <2'*3?' @(' 463*' :4 /3' 4 ' 4:' 945 3' ?'929 3 ' 7 *3?' +3' 9/2)3' 2<2'*9 ' +3' /45 54*2) (' =+3 3' +'9' +29' @33*' +3' 397) ' 7/+' ' 2' ;'4 4 (' 4:' +3' 6 ';')3<3?' +4',639' =29' +3' =4 9 ' +'*<' 5 +2 ' /47)?' +2663*6' :4 ' +3*' +3(' 2)=2(9' ?3<3*3 2 3?$' 2*?' @3*32 +' +3' ' 7*)'5' 3?' 64=3 ' +3' /45 54*=32) +' =3*' 54 2))(' J*?' 64)' '/2))(' 4' ?3/2(' 29' +29' @33*' 933*' 2 ' 7 3*@3 <' +3 3' +3' ?'967 39' /253' 4' 2*' 25'/2@)3

>' 11' 2!!1.J' -'0.*' 06' + '_1.!"8:/ 00D' 2 ' (! "5' ' ,1' A.1":1.' 4"*' 6 8:' 42(,' ! 7, '' ',.0+8' 08' ',1-1' 8'1.1-' 87' 921-' 08-' 8' ',1' ', .:' @0!241' 06' !!4"88&- +((X1' 'K , 0' ' -B ' $' ' ,- < 4' 8' (,,2.8J' ,- <' - -' , 'N <- 0 < <- ' 1-51("!!*' 8' -1(' 08-' = 3' = 3' "8:' 8' "8' 1--"*' 08' ',1' 0. 7 8' 06' ',1' (08-' '2' 08-' 06' ',1'C1.4"8'0+8-')*' ',1'-"4'" (,,0.8' 8' ',1'6 .-" "8:' -1(08:' @0!241-' 06' "@ 78*J' Im- < &'&n '0 < <-o < 'N <- C < (' 8' ',1'6 .-" "5518: ;' 8' ',1'6 .-" @0!241'06' .' .80!:J' ,2(*: :1-/ ',1.1' -' "'). 16')2" @1.*' ")!1' : --1.'"' 08' 08' ', -' -2)I1('

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2?,79 53* @(2 /4562/ 2*? +3 39 2@)'9+53* 4: 2 @2)2*/3 +3(=3 3 :4))4=3? @(+266(5 39$ =+'/+ 5'<+ +2;3 @33* 4:)4*< /4* '*72*/3 +2? +3 2'5 4: +3 2 '9 4/ 2/(@33* 4 3*4;2 3 2*? +79 4 6 4)4*< ' 9 3A'9 3*/3 =+3 329 =+3* ' /4* 2/ 3? ' 93): 2*? 9+ ';3)3? 76 '* 4 2* 4)'<2 /+(' ' @3/253 '564 3* 29 466493? 4 +3 @74(2* ';'<47 4:)':3 : 3* +3 /4*:)'/ =29 =2<3? =' + < 32 :3 4/' ('* /2939 =+3 3 9 7@@4 * 2 4<2*/3 3:793? 4 52E3 445 :4 +3 '<+ 9 4: +3 64=3 =+'/+ =29 /45'*< '* 4 @3'*<\ B 4 2 +3 =+'/+ 2) 32?(3A'9 3?$ *2(' 4: 3* 547* 3? +3 +'<+3 '* ' 9 6 3 3*9'4*9 +3 54 3 ' 47<+ 4 +2;3)4=3 3? +35 * +3 4 +3 '+2*? +3 +47939 : 3R73*)(('3)?3? 2)549 =' +47 39'9 2*/3 ! +79 '* +3 +' 33* + 2*? :47 33* + /3* 7 '39 +3 /4*9 ' 7 '4*9 4: 52*(2)'2* 2*? 3 52* 4=*9 =3 3 /+2*<3? =' + 57 72) <44?='))' 2: 3 +3 3A256)3 93 '@(9453 3: +3 < 32 /' '39

 <4;3 *53* '* +3 +2*?9 4: 6 ';')3<3? +47939 94)4*< 29 +3(2 3 9 '))* *753 479 2*? 2/ 72))(+3 64=3 :7))39 67 39 2*? *4@)39 62 4: @3 /4557*' ('9 +3 4 '<'*2) '?32 4: 2* 2 '9 4/ 2/(6 +3 6 3?45'*2*/3 4: +3 /4554*2) ('9 =+2 =29 :' 9 ?3*4 3? @(+3 *253 4: ?354/ 2/(*)2 3 '539 +3 6 '5' ';3 9'56)3 532*'*< 4: +3 =4 =4 ?9 +2? :2))<* '* 4 4@)';'4*$ 2*? ' =29 +3* 2 3563? 4 ?3:'*3 +35 : 45 9453 4: +3' 2//'?3* 2) 6 463 '39 * '9 4)309 ?2(+2 ?)(2*(2 '9 4/ 2/'39 '* +3 <3*7'*3 2*/'3* 93*93 =3 3 4 @3 :47*? 7/+ 29 +2? *4 @3/453 ?354/ 2/'39 +2?)4*< @3:4 3 9+ 7*E 76 '* 4 4)'<2 /+'396 +3 9253 64=3 =+'/+ +3' 2*/39 4 9 +2? 3A3 /'93? =29 *4= 3A3 /'93? @(2 57/+ 952))3 *75B. @3 4;3 2 /4554*2) (@3/453 < 32)(54 3 *753 479 2*? '564 2* 6 2*? '* 6 464 '4* 29 +3)2 3 :3)' ' 9 ?'<*' (2*? ' 9 '<+ 9 2*? +3 ?'962 ' (@3/253 54 3 <)2 '*<'" 3 3 +3 7)3 9 ?'9 79 :7) 2*/4 479 394);3? 4

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9 ':)3 =)'2 =29 < 4='*< 76 +3**)3<'9)2 4 9 +4=3;3 ='9+ 4 39/263 : 45 2 ?354/ 2/('*** +3! 93*93 +3** 29C 9'<*3? 4' +3( )'E3 +493 4:47 '539 E*3=4:**4 4)'3'! 3A63?'3* +2** 4 2E3 6 463 (:4 2 9 2*?2 ?$ 2 53297 3 =+'/+ +3 6+')4946+3 9 +3)?! 4 @3 7 3)(/4*?35*2@)/ 2*? 4)'<2 /+2) +3 7*'4** 4:2** 2 '9 4/ 2/('*** :7)) ;'C <47 =' +2 /4554*2) (=29 @(+35 39 3353? +3 ,79 39 2*? 947*?39 /4*9 ' 7 '4*C +'9 +3(/2))3? 2 64)' (+3 2)'2*9 '** +3 5'??)3 2<39)

7 +3 < 32 ?'::'/7) ('*** +752** '*9 ' 7 '4*9 '9 4 6 3BB ;3* +3' ' < 4='*< 4 6'? 2*? 8J/2('*< ;3** =+3 3 2 64)' (*2(2 /456)3 3 ?354/ 2/(=29B 39 2@)'9+ ' ' =47)? 549)(94 :3*/3 ' 93):'** +2 2 @4?(4:: 33 53** @3)4*<C '*< 4 +3 9 2 3 =47)? 96 '*< 76 47 4:**3=3)353* 9 @(' 9 9'?3$ 2*? +'9 @4?(=29 3993* '2))(2 /4554*2) (,79 29 57/+94 29 +493 =+4 +2? 2) 32?(2 2'*3? 4 2** 3R72)' (4:: '<+ 9$ 4*)(' ' ?'? *4 @32& +3 *253$ 2 @4?(4:: 33 63292* 9 4 +2*?'/ 2: 953** =+4 =3 3 E36 '** +3 @2/E< 47*?'2*? =+493 3A/)79'4** ':: +3' 9 3*< +@3/253 /4*9'?3 2@)3 =29 R7' 3 29 '*,7 '479 4 +3 9 2 3 4 2 2))3;3* 9 R7' 3 29 7*,79 29 +2 4:: +3 4 +3 9 +3 549 9'<*2) 2*? 5453* 479 3A256)3 4:: +'9 '9 2::4 ?3? @(+3)2 3 2<39 4:: +3 452** 367@)'/ +3 /2793 4:: 9 7'** =29 +2 +3 ?3;3)4653* 4:' 9 64)' '/2) 9(9 35 =+'/+ @(+3 2?5'99'4** 2*? 3)3;2 '4** 4:: +3 /4554*2) (+2? 52?3 +3 9 2 3 64=3 :7) 2*? <)4 '479 =29 /+3/E $ +2 +3 2)'2** 2))'39 =3 3 *4 '*;39 3? 4*3 @(4*3 =' + +3 452** : 2*/+'93 *9 2*/39 4** 2 952))3 9/2)3 52(@3 :47*? '*** 3;3 (9 2 3 @(=0+'/+ 2 *3=3 4 (=29 /4*C R73 3? +3 434 '2** ?'9 '/ 9 =+'/+ <2;3 +3593);39 76 4 +3 +3*'2*9 3*,4(3? +3 2?;2* 2<39 397) '*< : 45 2 /4557*' (B4:)2=9$ @7 +3' ' /' 'H3*9 ?'? *4 @3C /453 /' 'H3*9 4:: +3*9 +3 3 4 '39 97@,3/ 4 +3 ='99 4=*9 +2? 2')'E3 /)2'5 4 /';'/ '<+ 9 29)'3[<7')?9 +2? +2? 9453 /3* 7 '39 @3:4 3 *** 5(*2 ';3 #' 52'09+ 44' +3 25)54*' =+45' +3 2 /+@'9+46 '/ 4:: 353** 52?3 4;3 4 +3 367@)'/ =+3** +3 2 '9 4/ 2/(4:: +3

+47939 +2? /329 4 3A'9 =3 3 2 /45 54*2) ($ =+'/+ +2? *4 ;4'/3 '* +3 67@)'/ 29935@)(2*? *4 6 ';')3<3? +47939

+3 ?3579 '* '32 29 4)4* :4'5?' =29 2 /45 54*2) (:4 53? @(+3 '*+2@' 2* 9 4: +3 /47* (?';'?3? *4 ?47@ 2*? 2*<3? 3;3* +3* '* 4 ?3539 4 =2 ?9h l .$ 2*? 3* ' 3)(9362 2 3? : 45 +3 +47939 +3 62 '39 '* 4 =+'/+ ' 96)' 2*? =+'/+ +3 3762 '?9 ? 3= '* 4 +3' :37?9 /4 3964*?3? 4 +3)4/2) /+2 2/ 3 4: +3)2*?' +3 535@3 9 4: +393 ?3539 =3 3 +493 254*< +3 649 3 ' (4: +3 "8(18'' '/2*9 =+4 +2? 6 393 ;3? +3' : 33?45 2*?+2? '4 @33*' ?3< 2?3?'* 4 +3 39 3' +3 @(';'4)3*/3 2 +3 4*'2*' 55'< 2 '4* 4 97@93R73*)(' @(' ?'9 399 2*? +3 92)3 4: +3' 4=*' 63 94*9 *' +3 /4*9 ' 7 '4*' 4: +9 +3*39 +'9 ?3579 =29 2@32?(@3/453 6 3?45'*2* '*' +3 9 2 3

+79 44 +3. 452*' /45 54*2) (+3 6)3@9 2 493@7 4: 2 53?)3(4: 3)353* 9$ 29 ' =29 @(/4* '*72))('*/4 C 64 2 '*< 97/+ +2 ' ' 97664 3? 2*? 3*4 5479)(3*)2 <3? ' 93): ;3*' '* +3 4 '<'*2) + 33 4=*9 2 /45 54*2) (579 : 4*2 +3 :' 9 +2;3 @3<7*' 4 :4 5 ' 93): 62)(4: 63 94*9 3/3';3? 7*?3 +3 6 4 3/ '4*' 4: +3)2= 62)(4: /)'3* 9 29 =3))' +493 =+4 =3 3 : 33 @(' @' +' 29 +493 =+493 @4*?2<3 +2? 3A6' 3? @(' +3' 352*/'62 '4*' =' + +3@ 62 4*09 /4*93* 4 ' @(' +3 3A '*/ '4*' 4: +'9 2/3 +'9 /45 54*2) (+2? ' /4* '*73? 53 3)(' 97/+ =47)? *3;3 +2;3 '93*' 47 4: 4@9/7 ' (6 +3 ?39 '*2 '4*' 4: +3 /';'/ '@39 '*')2 3 '539 4 3/3';3 /' 'H3*9 4: 93 ;')3 ?39/3* '9 4='*< 4 +'9 +3' 4 '<'* +3 <3*7'*3 *4@)3 < 32 6)3@9 2E39 ' 9 '93 : 45 +3 :4 52 '4*' 4: 2 ?452'*' 47 4: +3 4=*9 =4*' : 45 +3 2 '*9 *' +3 2//47* 9 4: +3 /4*R739 9 4: +3 :' 9 E'*<9 ' ' '9 9 2 3?)'2 52*(4: +3 /4*R73 3? 6)2/39 =3 3 34*;3 3? '* 4 /4)4*'39 +2 +3 4 +3 9 =3 3 ?39 4(3? 2*? +3' '*+2@' 2* 9 /2 '3?

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4 453$ =+3 3 2)4*< =' + +3 /' 'H3*9 4: +3 /4)4*'39 +3(3/3';3? +3 452* : 2*/+'93 ' + 3<2 ? 4 +3 4 '<'* 4: +3 6)3@9 4: E'*< */79 +4=3;3 =3 2 3 4 976C 6493 +2 2: 3 +3 ?39 7/ '4* 4:)@2 2 64 '4* 4: +3 2 '*9 =3 3 /3?3? 4 453 @(2 32 (2?,79 '*< +3' 57 72) /)2'59 2*? +79 =3 3 6)2/3? '* 2)'E3 3)2 '4* +3 *2539 4: +3 /4*R73 3? 6)2/39 '* +3 +'9 4 '2*9 39 4* *4 97::'/'3* 27 +4 ' (6 *4 /2* ' @3 2*(+'*< @7 2* 2//'?3* +2 +3(2 3 2)) 2 '* 4= *96 4 =+2 3;3 6346)3 +393 *3= 535@3 9 4: +3 9 2 3 52(+2;3 @3)4*<3? +3' /4))3/ ';3 @4?(:4 53? 2 /45 54*2) (+3' : 2*/+'93 3935@)3? +2 =+'/+ '*)2 3 '539 =29 /' 'H3*9)''6 =' +6 47 2 ;4 3$:4 2 ;4 3 /47)? *4 @3 <';3* 3A/36 '* +3 /7 '396 @7 +3' /4*?' '4* =29 =4 93 +2*)'2 4: +493 =+4 2: 3 =2 ? 9 44? 4* +'9 :44 '*<6 :4 +3(/47)? *4 '* 3 52 (5 + +3 62 '/'2*9$ 2*? 2)) +3' 3)2 '4*9 =' + +35 =3 3 7*':4 5)(4 +3' 6 3,7?'/3 3;3 +3C)399 +393 *3= /' 'H3*9 9/2* ')(29 +3(=3 3 3*?4=3? =' + '<+ 9 =3 3 *4 52?3 76 +3* 2*(54 3 +2* '*)2 3 '539 53 3)(4: +3)4=3 4 ?3 9 +3 *4@)39 4: +3 /4*R73 3? 2*? /3?3? 4=*9 =3 3 254*< +35$ 29 =3 97@93R73*)(:'*? +2 +3 25')'' +3 26'' +3)*'' +3 5/'*23 =3 3 2)) 6)3@3'2*9

4= +2 +3 6)3@3'2* /4554*2) (2 493 47 4: +3 : 33 53* +79 '*/4 64 2 3? =' + +3 9 2 3 '9 97::'/'3*)(6 4;3? @(+3 2?' '4* +2 */79 299'<*3? +2@' 2 '4*9 4* +3 ;3* '*3 4 +3 2 '*9 : 45 +3 4=*9 =+'/+

, -'-''1'06', 87-'+"-'80"28D80+8'0 08*-2-⁉ 08!*',1'-"+' 8',1' 88"!-',.027,' 4 -"8:' 8' "' +.287 5!"(13 '0'+ '/ "6'1.' ',1' :1"',' 06 042!2-/ :2. 87',1'612:')1'+118' ',1' $"88'1-' "8:' ' 1-? ' N ' 18(1',1' 4"D1-'"': -' 8('08',1.1'"4087',1' 5"'. ("8-/)1'+118',1'" ' "- ' "8:',1' ! #!'8 -"* 87' ,0+1@1.'"' ',1'-"41' 41/',"' "4087',1' :142-' 4"8*'06',0-1' +,0' ,":')118' .1(18'!*'": 4 ''1:' 8'0' ',1' 8"' 08/',"' -/ ',1' 8,") '"8'-' 06',1' (08921.1:' '0+8-/'0' +,04' 042!2-' ,":' 7."8'1:' ',1' 04"8' 6."8(, -1/ +1.1' : -(08'18'1:/)1("2-1',1*',":' 80" .1(1 @1:' "8*!"8: ' 1.1' +1' -11',1'5!1)-/@" 8!*' :14"8: 87 '-' -,".1'06',1' 0 ' ,L ' - ' "8:' +,"' +"-' '-'0. 7 8' Y)0@1/5'

+2?' @3/453' 97@,3/' 4' 453G' :4' +'9' +')' =29' 2: 3 =2 ?' +3' 9' 3' 4:' =+2' =29' 63/7)'2)(' +3' 6)3@3'2*' /' (' +3' 9 2 353*' +2' +3(' =3 3' /4*;3(3?' +' +3' '9' *4' '*?33?' +'9 4 '/2)G' ' '9' '56499'@)3' +2' 97/+' 2*' 3*4 5479' 6467C)2 '4*' 9+47)?' +2;3' @33*' 2529!' 2' 453' ?'92@)3?' : 45' /7) ';2 '*<' +3' ' 354 3' 39 2 39')'493' =+4' /+493' 4' 93)3' +3 3' +2?' +3' ;3* '*3' 2))4 3?' 4' +35' 29B 2' 97@C 7 @' =+3 3' +3(' 5'<+')';3' 262 ' 7*?3' +3' ' 4=*')2=9G :2' +3' < 32 3' 64 '4*' 9 2'?' 2' +4536G @7' +3' ' 4=*9' /329' 4' @3' /4 64 2 '4*9' +3' 3 ' 4 (' 4:' 2' 6)2/3' =+'/+' +2?' @33*' 2E3*' @(' 9 4 5' 4' +2?' 97 3*?3 3?' 7*/4*?'C '4*2))(' @3)4*<3?' @(' +3' 2)'2*')2=' 4:' *2 '4*9' 4' +3' 9 2 3' ' 62 ' 4:' ' /4* '*73?' 4' @3' 67@)'/' 6 463 (' 2*?' =29' 7 *3?' 4' 2//47*' @(' +3' 62 '/'2*9' :4' +3593);39' 2*?' +3' ';2992)9G' 2' 62 ' :3))' 4' +3J9+2 3' 4:' +3' / 4J;*G +3' 39' =29' 62 /3)3?' 47' 2*?' 299'<*3?' @(' +3' E'*<9' 4' +3' 4)?' 6 46 '3 4 9' B'*' +3' ' *3=' /262/' (' 4:' 452*9' : 3*' 6 4@2@)(' +3' /4*:'9/2 '4*' ?'?' *4' 3A 3*?' @3(4*?' +3' 67@)'/' ?452'*

3 3' ' =')' 53 3)(' 97<<39' +3' *4 '4*')32;'*<' ' 4' 39' 4*' ' 9' 4 ;*' 53 ' 9' +2' 29' '*' 2' 57/+')2 3' 2<3' ' 2*)'79' =29')44E' 76' 4' @(' +3' /4))3/ ';3' 6)3@3'2*' 4 ?3' 29' ' 9' 2;4=3?' 62 4*' 94' 2' +3' :' 9' @3<'*'*<' 4:' +3' /45 54*2) (' +3' E'*<9' =3 3' ' 9' 62 4*9' ' 2)' 3;3* 9' ' ' '9' 2' < 499' 3 47' =+'/+')32?9' 79' 4' 2E3' +3' 549' 7*C ,79' ;'3=9' 4' 9766493' +2' +3' 6)3@3'2*9' 4 '<'*2 3?' 47' '. 4:' +3' /)'3* 9' 4:' +3' 62 '/'2*9' 2*?' 579' /4*93R73'')(' +2;3' @33*' '*97 <3*' +3 3?' 2 (' @4*?53*' +2' +3' /)'C 3* 9' =3 3' 4 2)' 9 2*<3 9' 4' +3' 6)3@3'2*' /4554*2) (' 2*?' ?'?' *4' /42)39/3' =' +' ' 7* ')')2 3' =+3*' +3' @4*?' 4:' 93 ;' 7?3' +2?' @33*')4493*3?' 62)(' @3/2793' +3' +47939' 4:' +3' ' 62 4*9' +2?' ?'3?' 4:' 4' :2))3*' '* 4' ?3/2(' 62)(' : 45' +3' 2?;2*/3' 4:' +3' =+4)3' *2 '4*' 4=2 ?' : 33?45' =')' @3' 6 4;3?' '*' +3' 93R73)' 4:' +'9' +'9 4 (G 2*?' +3' 549' ?3/'9';3' 3A6 399'4*9' 4*' +3' 64'*' ' =')' @3' R74 3?' : 45' #'4*(9'79' +'593):G :4' +47<+' +3' +2?' ?'9 '*/)(' : 253?' +2' 3 4*3479' *4 '4*' (3' '*' +'9' ?3 2')9' +3' /46'39

)'3 4)? 452* **2)9 '* =+'/+ +3 /4 3/ ;'3= 4: +3 3)2 '4* +2? *4 @33*)49 . 3 2'* 29 +'9 '9 ' ' '9 *4 B)399 94 +2 =+2 3;3 52(' +2;3 @33*)'3 :4 5 4: +3 /4**3A'4* @3 =33* +3 /45 54*2) (' 2*? +3 E'*<9 +3(' 6 4 3/ 3? ' 2<2'*9)'3 4)'<2 /+('9II 997 3?)(' +3(' /47)? *4 :2') 4 63 /3';3 +2 +3 6)3@3'2*9 '* 2 /4*C '*72))(' '*/ 329'*< 6 464 '4* :4 53? +3 549 '564 C 2* 62 4: +3' 5')' 2 (' :4 /3$ +2 4* +35 2)) +3 +4639 4: +3 :7 7 3 39 3?$ 2*? +2 +3 B4*)(' =2(' :4 453 4 @3/453 < 32 2*? 4 /4* '*73 94 =29 :4 ' 9)2=9 4 92*/ '4* 2*? 6 454 3 +3 < 4= + 4: 2 <'032 4C 52* 6346)3 \7 4:3;3 (' 6346)3 4: 2)(

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> 11)1!0 @/ 80'1- N = N

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K @&: 9 %#%% " '? -11 80'1 B B/ 5 N 4! 2- 1! ;' 8 C1!! 2-/ L ' B? (04 ' "' '.)2'"' 1--1 (24 1;' .17 08)2- 1" !2(- -266."7 24 6h."'2.

Y 1.0:0'2-3 @ ' NF ,1 (1.'" 8'*' 06 ', - -'"'14 18" - 80 +"* -,"D18)* 02. 4 11' 87 + ',' 40.1 ','8 "' ,28:.1:' 8"41- 8 "6'1.' ' 41- 0.' 8',1 6 .1"5!"(1 ',1.1 +"- 80', 87 '0', 8:1.' ',1 60.4 87

6 4/33?3?' '*' +'9' =2($?3539' +3' :47*?' 2) 32?(' 2 ' +2*?$ @7 ' 97/+' 2' *75@3 ' /2*' *3;3 ' +2;3' @33*' +3' =4 E' 4:' /+2*/3 ' !' 3 ;'79' 44 ' =+4' ?'9 '@7 3?' +3' 452*' 6)3@9' '* 4' 2' ?3 3 5'*2 3' *75@3 ' 4:' '@39 ' 2997 3?)(' ?'?' *4 ' @'*?' +'593):' 4' 4@93 ;3' 97/+' 3)2 '4*9' 29' 6 3;'479)(' 3AC '9 3?' +3' 352'*9' 4:' =+'/+' /2*' 4*)(' +2;3' /4* '*73?' '*' 9453' 4:' +3')' *' 6 4/399' 4:' '53' +4=3;3 ' 29' +29' @33*' 352 E ' 2@4;3' +'9')4/2)' ?'9 '@7 '4*' 2*9:4 53?' ' 93):' '* 4' 2' +3 3?' 2 (' 4*3' 2//4 ?'*< 4' :25')'39 I I ' %4

0' 6.1-,' :141-/)*' -2) : @ : 87' 0!:' 081-/ 0.')*' 8(0.50."' 87' 81+' : -G '. ('-'? 81;'/ ',1' !1; (07."5,1.-' 28921-' 08")!*' 06'1817 @1' ',1' 8"41' 0' "' :141' '0' +,"' +"-' 8' 6"(" "',02-1' ? "8:' !"-'!*/ "' ' ,18-' '00' " +"-' 08!*' 8' ',1' (02.-1' 0' ' 41' ', "' ',1' 5"'. ("8-' +1.1' .1(1 @1:' 8'0' ',1' '18' '.)1-3' "8:/ +,18' ',1*' +1.1' -0/ 4 "8*' ,02-1-' 4 "*' 51., "5-' ,"@1' 18'1.1:' 8' ',1 .' (0.50."'1' ("5"('*/ -0' "-' '0' 60.4' 18' .1' :141-' 11' @0!' ' 5' N/ 80'1' B

11' 55' B/ ' 8' 40:1.8', -'0.*' 'D80+' 80' 8-'"8(1' 06' ',1' -"41' D 8:' 8' "' :140(."(*/ 1;(15" 8' ',1' ("8'08' 06' (,+1 '_/ +,1.1/ 28' !' ',1' 1@0!2' 08/ ',1'-0@1.4 8' 1-'"'1-4 18' +1.1' : -'.)2'1:' 8'0' - ;' 92".'1.-/ 602.' 06' ',14' 0. 7 8"!/ "8:' '+0' ":: ' 08"!' 081-' ,1-1' 92".'1.-' ,":' !0("!' 8"41-3' *1" " +"-' 80" ',1' :+1!!1.' 8' "" 5!"(1/ 60.' 8-'"8(1' 8' .',/ ',"')1!0871:' '0' ',1' 92".'1.' 56' .',3')2" ,1' +,0-1' "8(1-'0.-' ,":')118' .17 -'1.1:' ',1.1' QB ' ! L o < L, o' @0!' ' 5' ' , -' 0.:1.' 06'', 87-' 42-" 80+',"@1')118' .11-'"')! -," 8'-2)-'"8(1/ ',027,' 40: 61:' 8' '-' "55! ("' 083')1("2-/1' ',"' 5"." 06' ',1' 5052!"' 08' 06' ',1' ("8'08/ +, (,' +"-' 60.41.!*' 8' "' -'"'1' 06' :1518:18(1/ 42-" ,"@1')118' ": 4 ''1:' 8'0' ',1' 92".'1.-' 8' "8' ". -'0(."' ("!' (08-' '2' 08/ ',1' ")0@1418' 081:' oo' "' " "5!1-' 28921-' 08")!*' 62.8 -,' "' ! D1' 1;" 45!1? "8:' ',1' -"41' 5. 8(5!1' 42-" ,"@1' 5.1@" !1:' + ',' .17".:' '0' ',1' 80)!1',02-1-' 8' ',1' '0+8-' 06' 09 ')".:*' "8:' 2-("8*/ +, (,' +1.1' .17 -'1.1:' "((0.: 87' '0' ',1 .' 92".G '1.-/ 6' "8*' 06' ',1' 414)1.-' !16" ',1 .' ,1.1: '".*' -'.087,0!:-/ +, (,' ,0+1@1.' ("8' -1!:04' ,"@1' ,"55181:' 1,01@1.' 28:1.'"D1-' "8' 8G 92 .*' 8'0' ',1' , -'0.*' 06' ' 1' (08-' '2' 08-' :2. 87' ',1' 4 ::!1' "71-/ 027,' 80" '0' 0@1.!00D' ',1' , 8" (08'" 81:' 8' '! 1' (.(24-'"8(1/ +, (,' "--2.1:!*' -' 80" 41.1' (,"8(1/ ',"' 8' (,+1 '_' ',1' 1-'"'1-418/ "' !0.18(1/ "8:' "!-0' "' "5!1-/ ',1')2.7,1 -/ +1.1' "' 6 .-" : @ :1:' 8'0' 602.' 5".'-'? '0' +, (,' "6'1.+" 1:U' 8' ',1' 60.41.' ("-'1 0+ 87' '0' ',1' 18G !".714 18" 06' ',1' '1.. '0.*/ 8' ',1' !"' '1.' '0' ', "' 06' ',1' ('*/ '+0' 0',1.-' +1.1' ":::1:3' ! D1' ',1' ', .:' '.)1' "' 041' '4".-,' '00' +"-' : G @ :1:' 8'0' 602.' C - .' ',1' '."8:418' 81@1.' 60.41:' 081

' 2 63 94* 354;3? : 45 /+2 *5 4 +97**79 +3 9 '))
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=' + 3<2 ? 4 '@39 3*,4('*< 2* 3R72)' (4: '<+ 9 *
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! '@39 =29 +2 +3(=3 3 *4 /)493? 2<2'*9 *3= 535C
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;3 ( )4/2) '@3 +2? 2 3<'4* /4'A3964*?'*< 4 ' G
2*? 2) +3 : 33 97@9 2* '2) 535@3 9 4: +3 452* 9 2 3
4 '/)7?3? '* +3 +47939 =+4 =3 3 ?=3)+*< =' +'*)'3
)'5' 9 4:2*(3<'4* =+3*)'3 /4*9 ' 7 '4* =29 '* 4?7/3?
=3 3 3<'9 3 3? 29 ' 9 '@3953* +3 3<'4* @4 3 +3
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+3 /47* (* +3 :4 53 7* ') 7<79 79 ?';'?3? +3
/' (2//4 ?'*< R ' 9 '*/ 329 9'H3 2*? +3 3A'<3*/'39 4:
+'9 '53!'* 4 2 < 32 3 *75@3 4: 3<'4*9 +3 :47 39 2C
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?'::3 / '//' 4:' 46'*'4*' 7 ' 29' 4' +3' *75@3)!4:' 3<'4*9' '* 4' =+'/+' +3' 452*' 3 ' 4 (' =29' 62 /3)3?' 47 ' 2 ' +3' 39 2@)'9+53* ' 4:' +3' 6)3@3'2*9' 29' 2*' 39 2 3 ' 2*?' /4*93C R73*)(' 29' 4' +3' *75@3 ' 4:'6)3@3'2*' '@39' 4 '<'*2))(' '*h' 9 ' 7 3?' #'4*(9'79' :47*?' 4 2))(' /4* 2?'/ 4 (' 9 2 353* 9G 2*?' '; (' 579 ' +2;3' +3)?' +3' ?'::'/7) (' 4' @3' /456)3 3)(' '*3A6)'/2@)3$ 94' +2 ' +3' /4*:'*3?' +'593):' 4' 53* '4*'*<' +3' /';'/' '@39' 2*?' +2 ' 44' '*' 97/+' 2' 52**3 ' 29' +47<);' *4*3' @7 ' +393' +2?' @33*' 39 2@)'9+ ' @(' 3 ;'79' '3*' '*' +3' **2)9' :4 ' +3' (32 ' \' +3' :47*?' 2*?' +'593):' /46'3?' +3' 9 2 353* ' +2 ' +3' '@39' =3 3' *4=' 27<53* 3?' 4' 4*3' 2*?' =3* (' +3' 6 4@2@)(' 299753?' ':' +3' 44E' 2*(0 +47<+' 2@47 ' 32)'3 ' '539' +2 ' 3 ;'79' +2?!' ?';'?3?' +3' 452*' 3 ' 4 (' '* 4' 9'A 33*' 3<'4*9

3:4 3' +'9' '53' 2' @3 3 ' '*:4 53?' 63 94*' 3;3*' 2 4' +'593):' +2?')3:' +'9' 64'*' 3R72))(' 7*?3 3 5'*3?G' 2*?' +3' /2793' 4:' +'9' ?4'*<' 94' '9' 6)2'*)(' +2 ' 2' < 32 3 ' *75C @3 ' +2*' =3* (' 93353?' ' 3/4*/')2@)3' =' +' +2 ' 4:' +3' (32 ' \' =+'/+' =29' 6)2/3?' @3(4*?' ?'967 3' @(' +3' 97@C 93R73* ' < 2?72)' '*/ 3293$ =+')3' +'9' <44?' 93*93' 2*?' +4C *39 (' !47)?' *4 ' 2))4=' +'5' 4' 2993 ' +2 ' =3* (' =!29' +3' 4 '<'*2)' *75@3 ' '*' ?' 9/ ' 46649' '4*' 4' +3' 4)?3 ' *C *2)9 ' 2*?' ?47@)399' 2)94' 4' +3' @44E9' 4:' +3' 27<7 9' 2*?

' ' ' ' ,1' ."8D' 06' ',1-1' ,0+1@1.' +"-' ',1' .1@1.-1' 06' ',"' 06' ',1' 5"'. ("8' '.)1-'?' ' 1' (04408"!'*'06' ',1' 2(1.1-')1("41' ',1' 6 .1'/ ',"' 06' ',1' "481-' ',1' ', .:'3 60.' +, (,' ',1.1' "--2.1:!*' +"-' '" .1"G -08' ,1' -92 ! 81' -114-' "!-0' '0' ,"@1')1!0871:' '0' ',1' !)1.' 1-' 06' 2(1.24'3')2" ',1' -1''!1418" 2508' " -' :1-(.)1:' "-' 60.41:')*' 71G 82 81' 5!1)1 "8-/ +,1',1.')*' ',1' "' 8-' "8:' 1.8 ("8-' 8!',1' ' 41' 06' 2!!2-' S-11' 1-'2-/ @' 15' 408' 0#/ 0.' +,1',1.' " +"-' 6028:1:')*' 1.@ 2-' "' !"*' ,0+1@1.' + '! 8' , -' 504h. 24/ "8:' (08-19218'!*' +"-' (045.1,18:1:' + ', 8' ',1' (1.1408 "!' +0.-, 5' 06' ',1' 5"'. ("8-/ "8:' ! D1' ',1' 0',1.' ',.11' (@ (' '.)1-' -'00:' 08' 9' !1--' ,080.")!1' 600' 87' ,2-' ',1' 824)1.' -1@18/' +, (,' -' 51.51'2"!!*' .1(2.. 87' 8' ',1' !0("!' : @ - 08' 06' ',1' ('*' S-11' 80'1' F #/ -' "7" 8' 6028:' ,1.1' + ', 8' ',1' 504h. 24'06' 1.@ 2-'? ',.11' : -'. ('-' ".1' (028'1:' '+ (1' 0@1./ 08(1' 60.' ',1' 5"'. ("8-/ ',1' 0',1.' ' 41' 60.' ',1' 5!1)1 "8-' ',1' -1@18',' +"-' "' '0 ;' : -'. ('/)1 87' "!-0' ',1' - '1' 06' ' !1' J (2-' H"'. ("-

64* ':'9 4= +3 '@39 '*/ 329 : 45 =3* (?6=2 ? =29 4 @3 :47*? 3)2 3? 3;3 (=+3 3$ 2*? "3**4*'79 =+4 29/ '@3? +3 39 2@)'9+53* 4: +3 =+4)3 :';3 2*? +' (4 3 ;'7 , '9 2 63 94* 2)549 7 3)(7*E*4=* 2*? +3 2(9 7*62 2))3)3? '<*4 2*/3 2*? /2 3)399*399

7 #'4*(9'79 R74 39 2 9 2 353* : 45 %2@'79 +2 3 ;'79 +2? ?';'?3? +3 452* 3 '4 ('* 4 9'A 2*? =3* (3<'4*9$ 94 +2 =' + +3 :47 /';'/ 4*39 +3 3 =47)? +2;3 @33* +' (2*? +3 9253 *75@3 4: '@39 G 2*? +2 +'9 9'*<7)2 2//47* '* #'4*(9'79 52(@3 ?3C 63*?3? 764* '9 6 4;3? @(2 : 2<53* 4: "2 s =+3 3'* 9453 *253)399 63 94* '9 92'? 4-+2;3 2664 '4*3?)2*? 2 47*? +3 /' (4 +3 : 33 /' 'H3*9 '* 9'A 2*? =3* (3<'4*9J.$ =+'/+ 97 3)(/2* 4*)(3:3 4 3 ;'79 '?)'79

,1 5"--"71 06 08*- 2- S @ # - -0 450.'"8'/ "8: 8 -2(, (045!1'1 : -0.:1./ ', " + !! '."8-(.)1 " "- " 027, " '0)1 +. ''18/ " ', 1 -"41 ' 41 I2-' 6* 87 4* (0..1(' 08- ' 'L.

3 . < :ZcX Sc. (* $"!(# 3 %' +)43 # (% 3 . ! &((/ $ 01 &0 2 0 / F , > + % (G H 3 - I J K .1. 0 H I6 (. (. + L 40 - (G 56 J$ 5H ((MJ H 3 J (+'5 (H ; , >$ (#H3 H c5'6(;H J J N > 8-'1": 06 (05* 87 ', 1 5"--"71 6.04 ', 1 5. 8'1: '1; 60. ', 1 .1":1. '0 (045".1 ', 1 '+0/ - 18027, '0 .161. '0 "? "8: 811: 08!* .14 ".D/ ', " , "@1 8-1.'1: ', 1 ": : ' 08 6028: 8 ', 1 4 "82-(. 5 06 1--". 08/ +, (, -5.0)")!* (08'" 81: 8 "!! ', 1 0', 1.-3 "8: ', " ', 1 (, "871 , "@1 4":1 -(08G 6 81: '0 '."8-50- 87 ', 1 +0.:-/ 1;(15 , 1 04 -- 08 06 #)160.1 ,1 1418:"' 08 -2771-'1:)* 708 2- '."8-50-1- '+0 (!"2-1-3 4 81 8 6"(08!* 081? "8: , -+02!: 60.(1 2- '0 -2)-' '2'1 *d o 60. L(*(,1 +,0!1 (0..25' 08 ".0-1 6.04 ', 1 +0.:- $0. J <' "@ 87)118 60.70''18/ ', 1* +1.1 ": : 1: 8 , 1 4".7 8 A)2'/ "- ', - +02!: 80 ,0!: ', 1 602. +0.:-/ ', 1 !"- +"- +. ''18)0@1 ', 1 0', 1. ', .11? ,18(1 , 1 81; -(.)1/ +,0 .1-'0.1: ', 1 5"--"71 '0 ', 1 '1;'/)2 8 ', 1 +.087 5!"(1/ ', 027, (+"- '0 -'"8: 6 .-'

"..Q/ :1 @ '" 505 04 5 '$#/ 6.04 08 2- ".(1!!2-/ (@ . ' 4 ;'."2.)14 8 .17 081- ; ;@ "7.0-@ . ' 4 !)1. - "''.)2 '

2*?' +:3' '@39' 4='3;3 (' 4*3'=')' 63 /3';3' +3' 9 'E'*<' '* 3 *2)' 6 4@2@')' (' +2' +3' *75@3' 4:' 6)3@3'2*' '@39' 9+47)?' @3' +' ($ @3/279:3' +3' 62 '/'2*9' 2*?' +3' 2 '*9' @3 =33*' =+45' +3' 6)3@9' 9 44?' 29' 2*' '* 3 53?'2 3' @4?(' 7*' '*<' +3' =4' =3 3' @4 +' ?';'?3?' '* 4' +' (' /4 64 2C '4*9' 2(' +'9' 6 4@2@')' ('9' 94' < 32' +2' ':' *4' 9 2 3C 53*' 4:' +3' E'*?' =3 3' 6 393 ;3?' 2*?' =3' =3 3' 53 3)(')3:' =' +47' 2*(+'*<' 4' /4* 2?'/' +'9' *75@3' 2*2)4<(' =47)?')32?' 79' 4' 2E3' ' :4' < 2* 3?' ! '3 94)3' 4@,3/ '4*' '9' +2' 2' +3' 2?5'99'4*' 4:' +3' 79 75'*3' '@3' +!3' *75C @3' +3*' 3A'9 '*<' =29' 4*)(' =3* (

+'9' ?'::'/7) (' 52(' @3' 94);3?' ':' =3' /2)' 4' 5'*?' +2' +3 3' =29' 2*' 3993* '2)' 2*?' *3/3992 (' /4 3964*?3*/3' @3C =33*' +3' 3<'4*9' 2*?' +3' '@39' 9' +3' 3<'9 3 '*<' 4' +3' 299'<*'*<')2*?3?' 6 463 (' =' +'*' 2*(' ?'9 '/' :4 53?' +3' < 47*?=4 E' 4:' 2')4/2)' '@3$ 2*?' ;4 '*<' @(' 3<'4*9' =29' +3' 9253' +'*<' =' +' ;4 '*<' @(' 6)3@3'2*' '@39$ 94' 2' '@3' 579' +2;3' /329' 4' 3A'9' =+3*' +3' 9 2 3' =29' /4563))3?' 4' <';3' 76' +3' 3<'4*' +2' =29' ' 9' @29'9' +3')32*9' :4' '*C 9 2*/3' +2?' =3);3' 6+()39C @7' =+3*' +3(')49' 2' 62 ' 4:' +3' ' 3 ' 4 (' 4' +3' /2?'2*9' 2)4*<' =' +' +3' ?3539' /45C 6 '93?' '*' ' ' +3' *75@3' 4:' 6+()39')3:' =29' 4*)(' 3'<+' \Q I' +2' +3' 452*9' '*' +3!' 32 (' =' +' 4 93**2' =3 3' :4 /3?' 4' /3?3' +3' 3 ' 4 (' 4*' +3' 79/2*' @2*E' 4:' +3' '@3' '9' 2/E*4=)3?<3?C 2*?' ' 9+2)' 9+3=' +4=' 7 3)(' ?39' 7 3' 4:' +'9 4 '/2)' :47*?2 '4*' '9' +3' 2)3' 4:' ' 9' @3'*<' 39 4 3?' 4' +35' @(' 2*' 2/' 4:' 452* '/' <3*3 49' (' 4=' =3' : 3C R73*)(' :'*?' @4 +' '*' +3')3<3*?9' 4:' +3' 4)?39' '539' 2*?' '*' +3' 54 3' <3*7'*3' +'9 4 (' 4:' 453' +2' 2' ;2*R7'9+' 6346)3

+' 5"2-"8 "-/ ! "(' '0' ; ' ,1-1' !0("!' '.)1-' 8' ! -' ".1' "8' 8-'"8(1' 06' ',1' 4"881.' 8' +, (,' "' .2-' (' 5052!"' 08' 7.1+' 8' ' 41' '0U 60.4' "' (044 08"!'*/ "8:' ',1' (044 08"!'*' 88 '1:' 8'0' 081' 5105!1' + ',' ',1' (' _18-' 2. 87' ',1' H1!050881- "8' +".' ',1' -0@1." 8'*' -' !!')1C !0871:' '0' ',1' ('*' 06' ! -3 "8:' ',1' 81 7,)02. 87' (028'.*' +"-' 8' "' -'"'1' 06' :1518:18(1' " -' "!-0' .14".D")!1' 18027,/ ',"' "6'1.+". :/ I2-' "' "' "' ' 41' 06' ',1' 7.1"'1-' : -'.1--/ ',1' -18-1!1--' 0! 7".(,-' "7" 8' '. 1:' '0' .0)' ',1' 8,") '"8'-' 06' ',1' (028'.*' 06' ',1' . 7,'-' (08(1:1:' '0' ',14

=29 /4563))3? 4 <';3 76 2 +' ? 4:' 9 3 ' 4 (' 4 +3 /4*R73 4 :' 97/+' =29 +3 53297 3 2?46 3? @(' 4 B 93**2 =' +' 3<2 ? 4 453' +'9 =47)? 3A6)2'*' +4=' ' /2533 4 62993 +2 ',79 ' 2 +' ? 4:' +3 4 '<'*2) '@39 ?'9C 26632 9\JI 2?' +3 **2)9 2/E*4=)3?<3? +'9 ?'5'*7C '4*' +3 +75')'2 '4*' 2*?' :2)) 4:' 453 =47)? +2;3 @33*' 52*':39 ' '*' ' 9 =+4)3 3A 3* $ 2*? +3 356 (' :2@)3 4:' ' 9 26'? 3/4;3 (' : 45' ' 9 5'9:4 7*3 =47)? +2;3 @33*')2'? @2 3

+393 '@39 ' =3 63 /3';3 ' ?4 *4 ' /4 39,)@*?' '*' *75C @3 ' =' +' +3 '@39 4:' +3 62 '/'2*9 ' @7 ' =' +' +3' ' 97@B ' ?';'9'4*9 ' +3 /7 '39 ' +'90)32?9 79 4 R739 '4*' =+3 +3

11)1!0+/ 80'1-' F / / ' ,0-1 +,0 !0-' '! 1 .'5.0G 51.'*' 8 (08-19218(1/ +02!:')1 '': 4 ''1:' 8'0 0', 1.' '.)1-/ 6'', 1*' .1G 40@1:' '0 041 6', 1*' -'' :' 08', 1 .'!"8:/ ', 1*')1("41 "! 18-' '0 041/ "8:' (! 18'-' '0 ', 1 81+' !0. :-' 06', 1 -0 !? "-' ', 1 . -,')1("41 6". 41.-' 06', 1 1-''"'1-/ +, (,' ,":')118 ', 1 5.051.'*' 06', 1 .' 60.1G 6"', 1.-'

U ' '+ !! 80)1 "' +"-'1 06 !")02.' '0 :1'1.4 81 +,"' +1.1 '! 1 '.)1-' ', "' .14" 81:' 02' 06', 1 0. 7 8"!' ', .'* ,1 602.' (@ (' 081-' "((0.: 87 '0', 1 .' ."8D +1.1', 1 2)2."8/', 1 -92 ! 81/', 1 0!! 81/ "8:' ', 1 H"!"' 81?' ', 1 .2-' (' '.)1-/"..'871:' "!5,")1' ("!!*/ +1.1', 1 : 4 !"8/ "4 ! "8/ !218' "8/ 0.81! "8/ ") "8/ C"!1. "8/ 0." ' "8/ 1408 "8/ 1818 "8/ H"5 . "8/ H25 8 "8/ 04 ! "8/ 1.7 "8/ 1'2. 8/ 0!' 8 "8' ', 1 (045!1418' 06' - ;'118' +"-' 4":1' 25')*' ', 1 !"2: "8 ' 0' ', "' ', 1.1 + -' "' !"2: "8' '.)1 6.04 ', 1)17 88 87' ?)2' ' 42-' ,1.1 "8' (5"'1 ', 1 (08I1('2.1/', "' ' +"-' -2)-' '2'1:' 8' ', 1 .004 06 " ".92 8 "8 '.)1/ +, (,/ ! D1 ', 1 ".92 8 "8 ,02-1/ +"-' :081 "+"*?-11 ', 1 '1;' '0 80'1 N ,1 .2-'24 81 -' 8 ' :11:' 0!:1.' ', "8' "!! (08-' '2'1:' "6'1.' F ?)2' - 8(1 ' : 661.-' 6.04 "!!' ', 1 .2-' (' '.)1-' 8' '! -' ! -/)0',' 8' ', 1 '1.4 8"' 08 06 '-' 8"41/ "8:' 8' ', "' 8"41J')1 87 '" !0("! 081/ ' 42-' 80 :02)' ,"@1')118', 1 '+18'* 6 .-'/-+, (,' +"-1-'")! -, '"6'1.' ', 1' .1"'*' + ', "' 24/ =', 1 6 .-' 06"' 81+' 0.:1.' 06', 87-/)* +, (,' ', 1' '18' !0-' '.)1-' +1.1 '0')0 .15!"(1: ,1 ' -' + ',02' :02)' ', 1' -"41' + ',' ', 1 L 081 06', 1' !"'1.' '.)1-'3 I2-' "-' ."8:' L ' ".1' 'IZ1-"41' +0.:/ =0-(!!" 1;' "!'" -2-518:28" ' 5 4 ' ? 5 !18' -' 4"'.1-' 8' M L ' . =0', 1.+ -1' ', 1.1 +02!:' ,"@1')118 ', .'* - ;/ 8-'1":' 06 ', .'* 6 @1 ' 0.' " 1 18' 81 '.)1 ', 1 08!* "2', 0. '*' -' " (0..25" .1": 87/ +, (,' ,"-' 80+')118 1;52871:' 0,' ', 1 "2', 0. '*' 06 '! 1 700:' 4 "82-(. 5'-/ 8' ', 1 -511(,' 5.0 H!" (0 NS #3 +, 1.1 ', 1 . 7, " +0.:' -' P1

! +3' ' *253 52(' *4 ' 4 '<'*2))(' +2;3 @33*' 2 ?'::3 3* ' 4*3 2*? =+3 +3 ' 3*' 4:' +35 =3 3 *4 ' 3R7'9' 3 4 52E3 76 2 6)3@3'2*' '@3$ 94 +2 ' 2 ' :' 9 ' +3 3 =47)? @3 + 33 97/+ ' =+'/+' 97@93R73*)(' 92*E 4 =4 ' +'9 /4*,3/ 7 3 '9 :2;47 3? @(' 47 ' :'*?'*< +2 ' +3 /45 54*2) (' 2 ' +3 79 75'*3 93/^99'4*' =29 +32?3? @(' =4 '@7*39 $ 2*? +2 ' 2: 3 =2 ?' =+3*' +3 /4*97)2 ' 64=3 ' =29 2*9:3 3? 4' 5')' 2 (' '@7*39 /+493*' 47 ' 4:' +3 =4 4 ?3 9' +3' ' 3<7)2 ' *75@3 ' 9335 9 6 463)(' 4! +2;3 @33*' 9'A ' + 33 :4 ' +3 62 ':'2*9 2//4 ?'*< 4 +3' ' '@39' 2*? + 33 '*')'E3 52**3 ' :4 ' +3 6)3@3'2*9' 7 ' '*' +'9)2 3 ' /293 +3 '* 3* '4*' 52(' 53 3)(' +2;:3 @33*' +2 ' +3 *75@3 ' 4:' +3 62 '/'2*9 @3'*< <';3* ' +3(' 9+47)? +2;3 2*' 3R72) *75@3 ' 4:' 6)3@3'2*' /4))g<739 2*? '*' +3 :4 53 ' 9'*/3 =3* (' =3 3 44 52*(' 4 <7'?3 2 6346)3 '*' 2 9 2 3 4:' '*97 3/ '4*' 29 =3))' 29 :4 ' 6 7?3*' ?3)'@3 2 '4*' 32/+' ?3/7 (' 4:' +3 '@7*39 52(' +2;3 2664'* 3? 2 ?3)3<2 3 '*?33?' =+(' 9+47)? *4 ' +3(')'E3 +3 !?3/7 '39 4:' +3 93*2 4 9' +2;3 +2? 32/+' 2)32?3 ' =+4 =29 4 /453 :4 =2 ? 4*' 97/+' 4//29'4*9L' *' :2/' +3 3 '9 2*' 3A6 399 2 353*' +2 ' +3 6)3@9 2 ' +3 93/4*? 93/399'4*' +2? =3* (' '@7*39 ?';'?3? '* 4 =4 ?3/7 '39 ' =+4 +2? 4 2664'* ' =4 /+'3:9\JT +3 ;4 39 4:' +3 /7 '39 @3'*< +493 =+'/+' =3 3 4)? '*' +3 2993 5@)(. ' +3 '@39 4:' 457)79 +2? 97*E' '* 4 '*9'<*':'/2*/3 *4 ' ?4 =3 533 ' 254*< +3 2 '*9 =' +' 2*(' 2/3 4:' 2 ?';'9'4*' 9 2*?'*< +'<+3 ' '*' +3 9/2)3 +2*' +2 ' '* 4 +' (' 4=*9

' 6+()3 579 ' *33?9 +2;3 2 6+()2 /+$ 2*? 94 579 ' 2 '@3 +2;3 2 '@7*3 :' #'4*(9'79 /4*:'*39 +'9 9 2 3 53*' 4 +3 /';'/ '@39 ' =+3*' +3 92(9 +2 ' 3 ;'79 26 64'* 3? 2 '@7*3 4;3 ' 32/+' 4:' +35 4 '*963/ ' +3 /4* ?' '4*' 4:' 3;3 (' +4793+4)? ' 2*? +2 ' 446 2*? 2A39 =3 3

@*/ ' ' 1(1.8 824h.0 '.)280-' 4 X '1.1-' S', -' -' "8 "((:18'"f 4 -'"D1# (.h"8" 8 @18' 20 U= (! 2-' 128:14' 8241.24' ")' -2 -' (.1"8:24' (2."' = 7 8' '.)28 -' 4 ! '24' 8170' 24' :1:1 ' .28'/ 2" 1;' -20' 824h.0 :20-' (.1".18' ' A 11'5 '

)3;'3? 2//4 ?'*< 4 +3 9253 ?';'9'4*JD\' +'9 94)3 3294*
:4 +'9)'5' 2 '4*' '9 +2 +3 E*3=*4 =+2 4 52E3 4:
+3 79 '/ '@39)''9 /+2 <3 4:'*963/ '*< 52E'*< *B
R7' '39 2*? 364 '*< =29 367<*2* 4 +3 96' ' 4:)2 3
2<39 =+'/+' 29 +3 63/7)'2 ' '39 4:'/+2 2/ 3 @3/253 54 3
;2 '3?'*33?3? 2*? 3A2/ 3? 2)2 <3 2*<3 4:': 33?45 7
' =29 4*)(' +'9 64 '4*' 4:' +3 '@7*39 4:' /3 +2 @3/253
3A '*/ G +3 # =+4)29 3? '))' +3 3*? 4:' +3
367@)'/ 9335 4 +2;3 @33*' 53 3)(' +3 97//3994 9 4:' +3
4 '<'*2)' '@7*39 +3*' +3 452*' 6346)3 +2? @3/453
3A356 3? : 45' 2))' 2A39 +3 52' :' 62 4:' +3' @79'*399
29 /4))3/ 4 9 =29 2 2*' 3*?G @7 +3(' /4* '*73? 4 3A'9
2*? 4 +2;3 2*' 42 +' 2?5'*'9 3 3? 4 +35$ 2*? +3(
=3 3 /2))3? @(' +3 7 3)'2*')2=' 4 +3 3A3 /'93 4:',7?'/'2)'
:7*/ '4*9' 29 36 393* '*< +3 @4?(' 4:' +3 549 3963/ 2@)3
/' 'H3*9 .

'2 +393L '@39 2 :' 9 /456 '93? 4*)(' +3 6)3@3'2*9
2*? +2 +3 62 '/'2*9 2*? +3' /)'3* 9 =3 3 *4 3*C
4))3? '*' +35' '))' 57/+)2 3 =')' @3 52?3 4 26632
'*' +3 93R73)' 4:' +'9 +'9 4 (' %4 +3 6 393* ' =')' 3C
5'*? +3 32?3 +2 +3 29935@)(' 4:' +3 '@39 =29 +3
9/3*3 =+3 3 +3 '@7*39 4:' +3 6346)3 =3 3 976 353$
+2 ' =29 *3;3 /4*;4E3? @(' 2 62 '/'2*' 52<'9 2 3$
+2 =+3*' ' 53 +3 62 '/'2*9 2*? /)'3* 9 +2? 4 =' +C
? 2=' : 45' +3 :4 75$ +2 +3 /3* 7 '39 =3 3 '*9 ' 7 3?
4 53?'2 3 @3 =33*' +3 =4 @4?'39 2*? 4 7*' 3 +35
2*? 94 =47)? 4 +3 ='93 +2;3 @33*' *33?)399 '9 9 2 3?
'*?33? +2 +3)27?'2*' '@3 =29 :4 53? @(' +3 /)'3* 9
4:' +2 +4793G @7 '*' +3 :' 9 6)2/3 +'9 '9 ;3 (' :2 ' : 45'
/3 2'*$ 2*? @39'?39 ' =47)? *4 0 +2;3 @33*' 2 < 32 3
?3;'2 '4*' : 45' +3 6 '*/'6)39 4:' +3 /4*9 ' 7 '4*' +2*'
+3 3/3';'*< +3)27?'" 254*< +3 62 '/'2*9' +2 '9'
'* 4 +3 + 33 '@39' '*9 32? 4:' +3 3A')3? +4793 4:' +3

08*- 2-/ ' ' <0 1 .>IT " ' L $ ' (".15
$[BD $ ' ' $ #-&# ' ' < ' '

< 77 &L '$? =7 F $C7$': I' (

2 R7'*9' +3 39 2@)'9+53*' 4:' +2' '@3 52(' 63 +269 +2;3 @33*' 2*' 3A63 '53*' =+3 +3' +3 3*' +2' =3 3 3AC '*/ 'B/47)?' *4' @3 < 2?72))(' 36)2/3?' @(' *3='4*39 :4 53?' 47' 4:' +3 /)'3* (' .

' =')) +3 3 533' 2*' 4@,3/ '4*' =+'/+' 52(' 6499'@)(' @3 2'93?' 2')329' +3 32: 3 ' @(' 2 ;'<')2*' 32?3 ')'3*' ' ' +2?' *3;3' @33*' R739 '4*3?' +2' +393 '@39 =3 3 2 <3*3C 2)' ?';'9'4*' 4:' +3 =+4)3 *2 '4*' 29 +493 4:' 457)79 =3 3 2)94 9766493?' 4 +2;3 @33*' 6 3;'479)($ *4' 54 34;3' +2' +3 +47939 =3 3 :25')'39' 2//4 ?'*< 4 47' *4 '4*9$ 3;3 (' 4*3 =+4 352 E' +2' 9453 4:' +3 '@39' +3 I 5')'2*' 4 *3)'2*' %2@'2*' @4 3 +3 =3))BE*4=*' *2539 4:' +3 549' 35'*3*' 62 '/'2*' +47939' +47<+' *4 ?47@' +2' +'9 579' @3 4='*< 4 +3' ' +2;'*< +2?' +3 +4*47' 4:' /4* 2'*'*< 97/+' 2 +4793 2)4*<' =' +' ' 9 /)'3* 9' 4 53 +'9 /' /75C 9 2*/3 2 +3' 9335 9 4 3A6)2'*' +4=' +3 *2539 4:' +3 +47939' +3593);39 4 '<'*2 3?' *' +3*'2*' 4:')'3 I 2* '?' 6+()3 ?'?' *4' @3)'3;3 +'593):' 4 @3 ?39/3*?3?' : 45' ,2A$ *4' 2 %4 5'2*' : 45' 5')'79 +393 =3 3 4*)(' 364*(59' +4*47 3?' @(' +3 '@3953*' 29 +3' ' /4554*' <72 ?'2*' 96' ' 9' 79' 29)')3 /2*' +3 23/')''' 94)4*< 29 +3 4 '<'*2)' '?32 =29 *4' 7 3)(')49' 9'<+' 4:' +2;3 /2 '3?' @2/E +3' ' 63?'< 33 4 23/7)79' +3 %2@'' 4 2 %2@79 4' %2@'79' +3 7)'' 4)7)79' +3 3;3' 2 +4793 2*?' 2 '@3 @4 3 +3 9253 *253' ' ' 52(' @3 2997537' +2' @4 +' =3 3 94 /2))3?' '*' +3 9253 52**3' 2: 3' +3 9253 ' 2*?' +2' @4 +' 63 :4 53?' 92/ ':'/39 4 +'5' 29 4 2 62 4*' 4:' 2 +'<+3' 4 ?3'\..I

PA 11' ,1' '1 I'' '0' 80'1' N

2(,' -' G ' 8 .7 !/ N= ' @ ' B B?' G ' 828(' "' 920 : 628: '2.' 1'' '.)2-' 1'' 718-' H1.' "' 24'?' ,1' -'X!0' 40.1' ', 1' 5.0718 G '0.' 06' ', 1' 081' ', "8' 06' ', 1' 0', 1. ' 2(,' "((2."'1' 860.4 8' 08' :01-' .7 !' : -5!"*' 1@18' 08' ', -' 50 8' ' 2(,' 06' +, "'', 1' 7"', 1.1:/ "6'1.' ', 1' 4"881.' 06' ', 1' !1;"8:. "8' 501'-/ 6.04' .17 08-' -1!:04'@ "'1:/ 5"--1-' 60.' , -' ".) '."*' 8@18' 08/ "8:' "-' -2(,' -' 1@18' (18-2.1:' "-' 6"2!'*' T ,18' ,1' 8'.0:2(1-' ', 1' 1508*4-' 06' '! 1' 1.7 "8' "8:' !2(8A' "8'.)1-' "4087' ', 1' .0I"8' 60!!0+1.-' 06' U81"-' S@' = #/ "8:

+2 ' +3 '@39 4: 3 ;'79 =3 3 6)3@3'2*' !h' '9 6 4;3?' 2 ')329 ' '*' 97@9 2*/3 ' @(' "2 409 /4**3/ '*< @3' ' '*9 ' 7C '4*' =' +' +3 299'<* 53* ' 4:')2*?3?6 463 (' +3*2 '7 3 4: +3 '<+ ' 4 3*,4(' +3 6 4:' 9 4: +3 *2 '4*2)' ?452'*9 @(' 6499399'4* ' 2*?4: +3 '<+ ' 4B2*!299'<* 53* ' 4: 6 4C 63 (' +3 3'*' 3R7' 39 4 @3 9362 2 3)(' 2*?:7))(' ?3;3B)46 ' %4 ' +3 6 393* ' ' =')' 53 3)(' 4@93 ;3 ' +2 ')'3 :4 53 ' 4 '<'*2))(' @3)4*<3?4 +3 62 '/'2*9 =+4 2: 3 ' 3/3';'*<)2*?9 '*;39 3? +3' ' /)'3* 9 =' +' +35'$ +3)2 C 3 ' 3A/)79';3)(' 4 +3 6)3@3'2*9$ +2 ' '*' 4 +3 ' =4 ?9' D;' +' +3 3A/36 '4*' 4:' +3 /47* (' 7*?3 ' +3 /' (B=2))9' 2))')2*?3?6 463 (' 9 '/)(' 9632E'*<' =29 '*' +3 +2*?9 4:' +3 6)3@3'2*9 2)4*3$ +2 ' 2))' +3 299'<* 53* 9 4:')2*?' =3 3 '*' +3' ' :2;47 ' 2*?' =3 3 2 93 B4:' :4 ' +3' ' 9+2 3 '*' +3 67@)'/' ?452'*9$ 8,'2 ' /4*93R73*)(' =+3 3 <3*3 2)' 299'<* 53* 9 4:')2*?' 2 3 964E3*' 4:' +3('2 3 2)549 ' 2)=2(9 3A6 399)(' 53* '4*3?' 29 +3 3/3';3 9$ 2*?' +2 ' =+3 3 +'9 '9 *4 ' +3 /293 ' +3 9253 39 '/ '4*' 579 ' 2997 3?)(' +2;3 3A'9 3?')'3 32)'3 ' 299'<* 53* 9 4 +3 : 33 53* ' 97/+' 29 2 3 29/ '@3?4 +3 2@'*3 E'*<9 ' 752 2*?' */79 ' +2?3/4<*'H3?' +3 '<+ 9 4:' 53*' @3)4*<'*< 4 2

=&'' 7 7'' =7 7 $ 7 $?' $ '+?+? 7?' H7 7 ' 2= =' ' '' L7 I' =$ C+I' =+ 7 C7' 2 =' ?'Q 7 &' '+' 7+%7' $ ' =7 F 7'7?' %+I' +? 7'' =7 C7+?' $ F+I' +' &F % $CF C7?' $ '$C7 7 K &'' +?% &7? &' ' C7?' $ ' = K=' +?L ' =$&K=' ?$ '& =' ?+C7'' + 7 $ H7 $&?% +C$?K =7 F7 '$?'' $ ' ? &7? 7 ?' = '' %+I

,1' ")-'."(' -2)-'"8' @1' 6.04' ' -' ' 0./ "((0.: 87 '0' ,1' 0!:' -51!! 87/ - ' +, (,' 08 2-' 920'1-' "-' 2-1:')*' "'0' "8:' "-- 2-' 14 8"? 1' ,08' @1' ' : (' -

U' 08*- 2-' -51"D-' 06'' '+060!:' "-- 7841 8'' 28:1.' 1.@ 2-3 081' I2-'' "'' ',1')17 88 87'06' , -'.1 78'3 "8:' "80', 1.' "6'1.' ', 1' (!0-1' 06', 1' '.2-("8' +"./ +, (,' ,1' .15.1-18'-' '0' ,"@1'!"-'1:' '+18'*' *1".-/ 02'' 06', 1' (08921.1:' '1.. '0.* ' @*/ +,0' +"-' 80'' : -'2.)1:')*' "8*' 611!G 87' ', "' ,1' +"-')028:' '0' 6!! 25' ', 1' +1". -041' 51. 0:' 06' 60.'* 602.' *1".-')*.1(0.: 87 ', 1' 1@18'-' 06' 1"(,/ :1-5"' (,1-' ', 1' '.2-("8' +".' 8' '' 61+' +0.:-/)160.1' ,1' (041-' '0' ', 1' 1-'")! -, 418'' 06' ', 1' (18'2. 1-3 "8:' ', 18' S(' C# ,0' 418' 08-' ', 1' 08!*' "-- 7841 8'' 06' +, (,' ,1' '"D1-' "8*' 80' (1

/45 54*2) (=+'/+ +2? *4 (3 2997 53? +3 :4 5 4: 2* 39 2 3'6 2*? @(+3 299'<* 53* 7*?3 3 ;'79 +3 6)3@9 =29 39 2@)'9+ '* ' 9 ?'9 '*/ ';3 /+2 2/ 3 4: : 33 +3 3C ?' 2 (6 46 '3 4 9' J

% 45 +'9 '53 :4 =2 ? +3 452* *2 '4* /4*9'9 3? 4: +3 =4 39 2 39 +3 ' 4 @4?(4: @7 <+3 9 2*? +3 ' 4 /45 54*2) ($- @4 + 2//4 ?'*< 4 +3 ;'3=9 4: +3)3<'9)2 4 3R72))(: 33 @7 ?'::3 '*< '* ?3< 33 4: +4*47 $ +3 62 '/'2*9 29 3)?3 @ 4 +3 9 2*? 54 34;3 29 32/+ 4: +35 =29)'3 535@3 4: 2 :2)399 *753 479 @4?(+2? +3 2?;2* 2<3 4: +3 6)3@3'2*9 29 +3 < 32 3 +47939 +2? 4: +3)3993 ' ?4 *4 2'5 2 6 ('*< '* 4 +3 5 (9 3 '39 4: +3 2*/'3* +34)4<'39 +79 57/+ +4=C 3;3 '9 3;'?3* $ +2 +3 452*9 /4*/3';3? 3;3 (62 4: B*2 7 3 2*? 3;3 (;' 2) 2*? 96' 72) 64=!3 4 @3 ?'C ;'?3? '* 4 =4 93A39 2*? =4 63 94*9 +3(+2? 2*? 2*?) *)'E3 52**3 +3('6 4C @2@)(2)94)44E 764* +3 *2 '4* 29 /4*9'9 '*< 4: 2*? # & +3*/3 +3 *2539 2 3 529/7)'*3 2*? :35'*'*3 +3 793 4: +g :4 53 =4 ? :4 +3 94;3 2'* 29935@)(4: +3 /3* 7 '39 @3)4*<9 4)2 3 +2 :4 +3 =+4)3 *2C '4* 4 (3 54 3 3/3* '539 2*? 2)4*< =' + +3 93/4*? 532*'*< +3 4 '<'*2) 4*3)4*< /4* '*73? 4 6 3;2') '9 3)2 3? 7*?3 +3 (32 X +2 +3 6)3@9 =' + +3 /4*/7 3*/3 4: +3 6467)79 /45 5' 3? +3 /+2 <3 4: '*C ;39 '<2 '*< +3 57 ?3 4: 49 75'79 4 +3 /4*97)9 * +'9 6)2/3 *4 '* 3 6 3 2 '4* /2* 2 2/+ +2 532*'*< 4 +3 =4 ? '* 4 =+'/+ ' +29 @33* 2 356 3? +47<+ ;3 (5'9 2E3*)(4 9 2'* ' '* +3 92('*< 4: 66'79)27?'79 # =+3 3 ' '9 /4* 3*?3? +2 532*9 +3 6346)3 '* +3 /3* 7 '39 J

@*/ ? 08 0 -1: 4"7 -'."'24 ', ")281)": 80 "2')0. '*0@1. ', 1 5"'. ("8- 0. ', " +"- ', 1 50 8 8 : -G 52'1

;3* '* +3 4 2/)3 4: +3 2 /+ =+'/+ =29 6 457)C
<2 3? ?7 '*< +3 93/4*,J 7*'/ =2 +3 6 3 4 '9 9 '))
964E3* 4: 29 6 4*47*/'*< +3 976 353 93* 3*/3 4: +3
)2= @4 + 4;3 +3 @7 <+3 9 2*? +3 /45 54*2) ('\I. 4 3C
4;3 2 29 =3 E*4= : 45 ;3 (<44? 27 +4 ' (
=29 +3 29935@)2<3 4: 2 53 3 62 4: +3 *2 '4* I J$ *4
4: +3 =+4)3 29 ' =29 7*':3? '+ +3 /3* 7 '39 4=
'; (92(9 +3 27<7 '39 +2? 2 2'*3? 4 97/+ +'<+ +4*47
+2 +3 < 2*? +3 /:3* 7 '2 3 /45' '2 =3 3
?'994);3? '* /4*93R73*/3 4: 7*:2;4 2@)3 453*9 I I 3 3
+3 =+'/+ : 45 +3' ;3 (*253 579 +2;3
@33* ?'9 '*/ : 45 +3 4*)(<3*3 2 /45' '2 +493 4:
+3 /3* 7 '39 4 +3 2 3 54 34;3 3A6 399)(
253? 2)4<9'?3 4: +35G 2*? 2 '9
47 4: +3 R739 '4*$:4 +'9 ?'? *4 9 2*? 7*?3 +3
'*:)73*/3 4: +3 27<7 '39 4 +2 2 '9
3R7';2)3* 4 2* 29935@)(4: +3 62 '/'2*9 4 +3 /7 '39
7/+ =29 +3 4 =+'/+ 7@)'/0)2 62'? +452<3
@( )4=3 '*< +'9 :29/39 I J 7/+ =29 +3 29935@)(=+'/+
?3/'?3? @3 =33* +3 '/'*39 2*? +3 ?32 39 /4*C
/3 *'*< +3 3 ' 4 (+3(=3 3 ?'967 '*< 2@47 I I 9
+3 62 '/'2*9 2 +2 '53 =3 3 9 ')) +3 4*)(64993994 9
4: +3 ?452'*9 +3 6)3@9 =29 '* *4 =2(R72)':'3? :4
,7?<'*< =+3 +3 2 62 '/7)2 ?'9 '/ @3)4*<3? 4! +35G
4 =47)? ' +2;3 +2? 2('* 3 39 4 ?3/'?3 7*:2')(G
*4 :'*2))(=47)? +3 /4*97)9 +2;3 < 2* 3? ' +3 +4*47
4: 93)'*< 2 R72 3) @3 =33* =4 :4 3'* 4=*9 : =3
E336 +'9 3A6)2*2 '4* 9 32?')('* ;'3= =3 63 /3';3 ' =29

@*/ LL ? H."1'0. = - 92 w I2- :") "
-24424

Y '1! 2- 1! ;/'920'1:)*' C1!! 2-/ ;@ B ? - 92 808 28 @1.G
-24 5052!24/ -1: 5".!14 "! 92" 4 " :1--1 I2)1'/ 808 (04 ' "/ -1: (08G
(! 24 1: (1.1 :1)1'

A @*/ N 3 %' = (08(" " 1;1.('2- @0("' / -244 " .1G
.24/2) "@1- 808 9U!4 - --18'/ : . 41.18'2.

11 80'1 B

@*/ B ? G 4"7 -'."')2- :"'0

X m o !9>' !/' 9!"

@(' +3' /7 '39' +2 ' ' 2*)'79 ' +3' 92;'47 ' 4:' +3' 26' 4)'
+3' 62 4*' 4:' +3' 452*' /45 ,6*2) (' =29' /4*?35*3?'
4' ?32 +' 2: 3 ' +3' /3* 7 '39' +2?' 2/R7' 3?' +' *9hK.G 94'
< 33?')(' ?'?' +3' 62 '/'2*9' +' 9 ' 2: 3 ' +'9' @)44?' +3' ' J
6)2/3' 4:' 533 '*<' =29' +3' 45' '75 ' +2 ' 4:' +3' 6)3@3'2*9'
+3' %4 75'\l' +3' ?'9 '*/ '4*' @3 =33*' +3' =4' 4 ?3 9' '9'
;'9'@)3' 3;3*' '*' +3' ' <25 p9$ =+'/+' =3 3' =4:4)?' +3'
452*' 2*?' +3' 6)3@3'2*' +3' :' 9 ' =3 3' +3)?' '*' +3'
< 32 ' ' /79$ 2*?' 2//4 ?'*<)(' =3' 2 3' 4)?' +2 ' +3' 7C
'39' +2?' 6)2/39' +3 3' 299'<*3?' 4' +35'G$ +3' 9362 2 '4*'
@3 =33*' +3' 4 ?3 9' 2//47* 9' :4 ' +3' 4 '<'*' 2*?' 67 6493'
4:' +3' ' /79' %)25'*'79 ' 579 ' +2;3' @33*' ?39'<*3?'
:4 ' +3' <2539' 4:' +3' /4554*2) ($' =+'/+' '*' 32)(' '539'
/+493' ' 9' '@7*39' +3 3' 4*' +3' %)25'*'2*' :'3)?9
4=' 29' +3' 2 /'" ?39'<*2 3?' +3' *2 '4*' @(' +3' =4'
=4 ?9' ' 2*?' # ' 94' +3' :4 57)2 '39' 4:' 6 2(3 ' @('
=+'/+' 2)' 6 4/33?'*<9' '*' +3' 6 393*/3' 4:' +3' =+4)3' *2 '4*'
=3 3' 463*3?' 9453 '539' 52?3' 53* '4*' 4:' +3' O '
9453 '539' 4:' +3' # ' 2)4*<' =' +' +3' ' ')

>AJ @*/ ' ?' 24' ' 5052 2-' ('8.1'2.' ='"55".2 "
82892" 4' 60.1' =' (. 4 8' !0(24 ' '"' =' ' ' 8: ('24'
1-' ' ,1' '.21' "((028" -' (!1".!*' ', "' ', 1' :224@ .-' 451"(,", 4
Y' 0',' 06' ',1-1' !"*' 08' ',1' -"41' !1@1!/ =' 92"8'0' .0-'."' 60.0' 1'A'
(0." ' 0' -251. 0."' -28'/' -"*-' H.08'0/' ":' 8'08 8' 27' !' '5' '1: '
04 = "8:' +1.1' -0' - '2"'1' 8-' '0' 60.4' "' +,0!1/ +, (,' 8' (04408'
5".!"8(1' +"-' ("!!1:' ',1' 0.24 ' ' +"-' ', -' 0.24/ 8' ',1' + :1.'
"((15'"' 08' 06' ',1' +0.:/ ', "' +"-' -2..028:1:')*' 50.' (01-' ,1'0. G
7 8"!' 5!1)1 "8' 0.24' +"-' 5"@1:' + ',' 6!"7-'081-' 06' '."@1.' 81'? ',1'
04 ' 24' -' ',1' 5 1(1' 06' 7.028:' +,1.1' "' 5"@14 18" 06' 6!"7-'081-' 06'
7 "!!0' +"-').027,' " '0' ! 7,' ")*' ',1' 1;('@"' 08-' 06' ',1' !"-' " (18'2.*'
,1*' +1.1' -15"."'1:')*' ',1' "8(18" .0-'."/ "' -'"71' 06' (08- :1."))!1'
!187',' + ',' -'15-' "' 1"(,' 18:' 06' '/ !* 87' 8' ',1' ! 81')1'+118' ',1'
'145!1' 06' "-'0.' "8:' ',1' 2. "' 0-' ! "/ "' . 7,' " "87!1-' '0' ',1' 6.08" '
06' ', -' 2. "' "8:' ',1' -'15-')160.1' ' ' 0+8' '0' ',1' ' 41' 06 " 2-'
C."((,2-/1@18' ',1' '.)281-' 8' -51"D 87'2-1:' '0' 6.08" ',1' 04 ' 24' ?
,1' '2.81:') -')"(D' '0' '/!"8:' -50D1' + ',' , -'6"(1' '0+".:' ',1' 0.24
!!' -2(,' : -' 8(' 08-' 81(1--". !*' ("41' '0' "8' 18:/ +,18' ',1'
5"'. ("8-' +1.1' !0-" 8' ',1')0:*' 06' ',1' 8"' 08' ! D1' "' :.05' 8' ',1' -1"
Y' M20:'61! ;/6"2-'24/60.'28"'24/-"!2'".1$j21'- " 'U

'9 73 +3 4 '<'*2) w7' ' 39 =3 3 4 2))(' 2*7 3993* '2))(' ?'::3 3* : 45 +3 6)3@3'2*9 2*7 =3 3 @3/453 2 62 4: +3 62 '/'2*9 7 +3 6)3@3'2*9 =3 3 *4= 9 2*?'*< '* +3 9253 3)2 '4** 4 +3 /4))3/ ';3 @4?(' 4: +3 /7 '39 '* =+'/+ +3 93/4*7 '@3 +27 4*/3 9 447 4 +3 :' 9 +3 :4 57)2 (' =29 32?(' 2 +2*?' 2*7 =29 266)'/2@)3 3*/3 +3 /79 45 4: 2?? 399'*< +3 29935@)(' '* +3 %4 75 @(' +3 *253 4: O & +3*/3 +3 6+ 293 O + 2*7 +3)'E3

54*< +3.5329739 4: 3 ;'79JJ:4 6 454 '*< : 33 ?45 ' ' '9 :7 +3 9 2 37 +2 +3 39 2@ 9+ ,7?<39 :4

M S80" M #- 11 5 F / 80'1 B # 1-' -/ @ (40- 1."6 04"8 - 8 048)2- -"(. (- 5.1( )2-921 (1.0 5."G 5, ."-1- ', - "- 60!!0+-7 M2"1 :15.1("'2- -24 =2 1"1 .1- = W U)181 "'921 6h! ('1.'1@18 .('7 H.0 2.18"/

=7 $'7 $ = "1 ?N& I C&' +%%$?7 C$ 7 7C+ L _ K 7+ ?&CH7 $?' +? 7" C+I H7 $ 7 7 HI C7 7 I & ? ?K $ 7 =7 F+K7"$: I 2=7 7 =7 K 7" =7 ?+C7 $ $ =7 T& =7'7 $ 7 ?$ $ =7 ' K= 7' CF$ +? 7' 27 C+L7 +% ' ? $?7 H7 277? =7 ' F + 7 $ =7 +?K&+K7 ? +? 7?' C7'' 2= =7 7 + ?7% ? $FI ?K $C '& = ??+ "$" ' F+ % + 7? $?7 $ +?% =7 & &+ ?K / '+K7 2= = =7 '=+ 7% 2 = = "$2?7 +K7' $2 % & 2$& % =+ 7 H77? $ = C $ + $ % = "0 2=7? =7 H&?7' 6 = $ =+% + 7+%I $?K H77? + &+ I H&?7"1 $ $ =+% $ '$C7 =&?% 7% I7+ "+ =7 7+' +?'+ 7% H&' ?7' "$ + I 2 = =7 $ $ =+ +K7 =7 $C +1 $ =7 7? & 7' T& = "1 $? I E C+L7" &" =7 C$ 7 ' & L 2 = =7 F 7 ' $?7 $ =$'7 F+' '+K7' 2=7 7 =7 " 7 + I 7 ?K =7 7(F 7' ' $?" $ =7 $ %7 2 7 ' 2 =$27 7 CI'7 N&$ 7 +?$ =7 F+' '+K7 2= = C K= '7 7C $ C+L7 +K+ ?' C7 >+ c %7 7 &' F B : ? &" H F &C 7' '7 F$' 7K7"7(+ $" +?? " ?(F C&" F$F& &C +% 7K7"+ F 7?7 %+" ? '7F 7C 4&K7 + $ 7?' + 7 $C $7%&(=7 ?&CH7 $ I7+ ' +" 7 7 I $?7 '77' " $ &F +?% F7 =+F" =7 $ &F $? =+" K$?7 & =7 B H& + +?I $?7 +L7" =7 7 $ C7+? +?% =7 $ H7 " F + 7 $ +' '7CH I H7 " $ + I ? =7 %+ L ? = " 7 I F+' '+K7 =7 " =7 & 7' 2=$ 27 7 $ 7% $ + 7F =7 +2 F F'7% HI =7 &CF=+? F 7H7 +?" p , =7 H&?7 $?%& " =7C $C =7 $C &C $ =7 'F$ 2=7 7 =7I + 7 $ $? &%7 F7+ 7 2 = =7 F 7H" B =7 '7 7?4&K7 " + 7 7 $?% $? B '7F ?4&K7 +B L7 F+(' %+ + 8 =+" 7K7" 7' ' B : I ; ; ;

6 ';2 3' 2/ '4*9'\9W' ' 3* 3 2'*' *4' ?47@' +2' +'9' 3:3 9' 4' +3' '*9 ' 7 '4*' 4:' +3' /3* 75;' 9' +3' 4*)(' < 47*?' :4' +3'6 3;2)3*' *4 '4*' +2' +'9' '@7*2)' =29' *4'3 3/ 3?' 7* ')' +3' :';3' 2*?' +' (' '@39' =3 3' /456)3 3?' 4' '))' +3 3' =3 3' 2')329' + 33' 2*?' +' (')'39''*' ' 9' *253'6 =+3 329' +3' 2< 3353*' @3'*<' 4*)(' 266 4A'52 3' +'9' '9' 2' 97:) /'3*' 9'<*' +2' +3' *253' 2 493' 47' 4:' /45 54*' 62 C)2*/3' 2*?' =29' *4' +3' 4 '<'*2)' 3/+*'/2)' 2663))2 '4*' %4' 3;3 (' '@3' +3 3' =3 3' + 33',7?<39' +'9' *75@3 Y +3' 6 '*/'6)3' 4:' 36 393* '*<' +3' 62 '/7)2' '@39' 2*?' +3' /4*C 93R73*' 6 2/ '/3' :4' +3' 3)3/ '4*' 4' @3' /4*?7/ 3?' @(' 32/+' 93;3 2))(' *4' @(' +3' /4))3/ ';3' /45 54*2) (Y +3' 9(5C @4)' 4:' +3' 9632 Y 2)' 64'*' 4' ;3 ('4)?' '5 39C' +3' 9(5@4)' ,79' 53* '4*3?' /4* 2'*9' 2*' 2))79'4*' 4' +3' 6)3@3'2*9' 29' w7' ' 39$' +2' *253' @3'*<' : 3R73*)(' ?3 ';3?' : 45' +3' 2@'*3' =4 ?' ' 2' 9632 ' 4 34;3 ' +3' /27939' =+'/+' /253' @3:4 3' +'9' /47 ' 3:3 3?' 7*':4 5)(' 4' 52 3 9' +2' 4//7 3?' '*' +3' /3*979' 4' /4*/3 *3?' w7' ' 2 (' 6 463 (' '3' 4*3' 93*2 4 '2*' ,7?<3' =+4' =29' 2664'* 3?' @(' +3' 6 3 4 ' =29' 6 463)(' /2))3?' 2*' # ' +3' /3* 75;' 9' =3' 2 3' 63 :3/)(' ,79 ':'3?' '*' 29975'*<' 4 '<'*2))(' =+3*' +3(' =3 3' *'*3 (' 2*?' 2: 3 =2 ?' 29' +3' ' : 75@3 ' =+'/+' 4*' +3' ?'5'*7 '4*' 4:' +3' '@39' +2?' @33*' 3?7/3?' 4' 9'A (' < 2?72))(' '*/ 329' 2<2'*' @4 3' +3' *253' 4:'E)' *?' +3' 7*6 3,7?'/3?' ='))' 329')(' 933' +2' +393' 2 3' +3'E ' =+4' 2: 3' +3' 2@4)' '4*' 4:' +3' ?3/35;' 2 3' =3 3' 6 4 3/ 3?' 2)4*<' =' +' +3' 4 +3' 6)3@3'2*' 52<'9 2 39' @(' +3')2=9' ?3/)2 '*< +35' '*;'4)2@3I I

#'4*(9'79' @' ' >

Y' H!"2'2-/ 2:18-/ 8' 'B' .70' :"'0' #3' -18"'2' *.18(8-' 9814@-' 052!18'22' ' '2"-' 1--1' 050.'1" 1'(' '*1".-' "6'1.+".:' " +"-' "' 4 "''1.' 06' : -52'1' +,1',1.'($'0.' '+1.1' ',1'. 7,"' 8"4 1?' (1.0' 5.0' 2.18"/ 'S B#' ,1' 8"'2.1' 06' ',1' U .1!"' 08')1'+118' ',14',":')118'2'"%*'60.70''18

>' @*/ 'N ' ,"' 8718 02-' -(,0!"./ 8' ' 272-' 82-/ +,0' 8',-'@1+-'08',-'0. ("!' 921-' 08-'+"-' 40-'!*' 80'!1--',"55*/ ',"8',1' +"-' 8@". ")!*',1' (08'."*' 8' 1418:"'0.*' (.' (-4/ : -(1.81:' ',-

39'?3 +3 3)3/ '4*' 4:' +393 ,7?<39' 2*?' 4:' +3 '0
@7*39' 93;3 2)' 4 +3 9 52('+2;3 @33*' /2 '3?' 4*' @(' +3
6)3@3'2*9 /4))3/ ';3)(' 4' @(' +3 62 '/7)2' '@39 9362
2 3)(' ' '9 2997 3?)(' 54 3 6 4@2@)3 +2' 3;3*' '*' +493
'539 +3('+2?' 3?')39' :4 5'*<2 63/7)'2')4/2)' 52<'9 2/('
97/+' 29 =3 52('9766493 4 +2;3 97@9'9 3?' '*' +3 4=*9
+3 '*+2@' 2* 9 4:' =+'/+' @3)4*<3?' 4 +3 6)3@9' +2*' +2'
+'9 4:' /3 4 '<'*2 3?)2 3 ' +3 6)3@3'2*' 29935@)'39 52('
2)94 +2;3 +2?' 2 ;2 '3 (' 4:' 67 64939 4;3' 2*?' 2@4;3 3)3/0
'4*9$ +3 6299'*< 394)7 '4*9' +J''5649'*< 2 39 :4' /450
54*' 4@,3/ 9' +79 <3*3 2)' /4* '@7 '4*9 :4' +3 :7*3 2)9
4:' :2;4 ' 3 9 2 3953*' =3 3 4 ?2'*3?' @(' 67@)'/' ?3/ 33J'
3 52(' 29975 3 +4=3;3' +2' 3;3*' +3*' +3(' +2?' '<+ 9
=+'/+' /2'*3 57/+' *32 3' 4 +3' '97@93R73*' '64=3

>%4' +3)3<'9)2 '4*' 4:'2*' '*?';'?72)' =+4 '9 +3 976 353
+32?' 4:'2 9 2 3' 67 9739 2 ?'::3 3*' /47 93 : 45' +2' 2E3*'
@(' /4*:)'/ '*< 64=3 9 '*' 2 : 33 9 2 39 =+3 3' =' +47' ;'4C
)2 '*< +3 67@)'/' 632/3' 2*?' +3 :4 59 4:')2='*4 +'*<@7'
< 2?72) /4*/399'4*9 /2*' @3 = 7*<' 9453 '539 @(')7))'*<'
:32 9' 9453 '539 @(' 479'*< +35' : 45' +3 64993994 9 4:'
6 ';')3<39 =+'/+' +2;3 @3/453 3A4 @' 2* ' 2@4;3 2)' =+3*'
+3' ' 9=2(' '9 2 797 62 '4*' +3 4(2)' 27 +4' 4:' +2'
>'/4*9 ' 7 '4*' =+'/+' 649 3 ' (' ?39'<*2 3?' =' +' +3 *253
4:' 3 ;'79 7))'79\I' /2**4' +2;3 7*?3 9 44?' +3 *2 7 3
4:' +'9 4=*' 53297 39' ':' 2: 3' 39 2@)'9+'*< +3 6)3@3'2*

'.2','?)2'',1'08!*'7"@1'"'6" 8'', 8'06', -' 05 8 08'3 "8:'-0', -'(08
I1('2.1': :' 80" 411' + ',' "((15'"8(1' $ 11' ."D18)0.(,' 08'',1'
5"--"71'.161..1:'0 # 1'+02!:',"@1',":'0'61'(,', -'.1":1.-'6.04'"'
@"-'': -'"8(1/02"06'"' 52)! (' -' !!' 6".')1, 8:' 8' '-' 808"71/"8:'0'
("..*','14'25' '0','1' 50 8'+,1.1',1'+"-'-'"8: 87?','1'.0":'0' '
+"-' 80' !1@1!1:'?"8:'6'1.'"!!' +02!:'','1*',"@1','8D' , 4'60.' 'f/
7,',1'80'.1-'-"'-6 1:'+',',"@ 87'6028:', -' +"*','1.', 4'(
-1!6 0
+' 0.'','"'06' 7.' 1818 2-' '+"-' 5.050-1:')*','1'.)281-?
08*- 2-/@ 'FN' A
Y' %'/9214":40:24' 24"':@8' "2('0.'I2.-'62 --1'/''"' 1.'
@24'(08:'0.14'048-' 8'(@'"'1':-(.488-/0.:828 921'='50-'1.a'
6"4"'61..18'?@*/'

39 2 3' +3')3:' ' ' 94' ?39 ' 7 3!' 4:' 6 4 3/ '4*' 29' ' ' =29' @3B'
:4 3' +3' 3/399'4*' 2*?' 94' :2' :'045' 2*' 3R72)' (' 4:' '<+ 9'
29' ' ' 9 '))' /4* '*73?')4*<' 2: 3 ' '/3 4' =29' *4' 9632EC
'*<' '*/4*9'?3 2 3)(' *4' ?'?' +3' 94' 57/+' 2*964 ' +'5C
93):' 4' +3' 64'*' 4:' ;'3=' 2E3*' @(' 2' ?'::3 3*' 62 (' 29'
? 2=' @2/E' +2' /7 2'*' 4:' 6 3,7?'/39' + 47<+' =+'/+' +3'
7972))(' 39 3353?' ' ' +'9' ?7 (' 4')44E' '* 4' +3' 92*/ 72 ('
4:' +3' /4*9 ' 7 '4*' =+3*' +3' ?3/)2 3?' +2' +3' 6)3@9' @('
+3' 3/399'4*' 3/4;3 3?' ' 9' +2))4=3?' '<+ 9' ' 9')'@3 C
'39' \II' +3' 53297 3' @(' =+'/+' +3(' =3 3' 93/7 3?' =29'
3=' 2?' =29' +3' 397)' 4:' *3/399' (' 4='*<' 4' +3' /+2*<3'
'* +3' :4 5' 4:' +3' /4*9 ' 7 '4*G' @7' 4: +3' '<+ 9' +35C
93);39' +3' /45 54*2) (' /2**4' +2;3' @33*' 39 ' 7 3' '
=47)?' *4' +2;3' @33*' 2' : 33' @4?(')'E3' +3' @4?(' 4:' @7 <+C
3 9' 7*)399' +3 3' +2?' @33*' +3' 9253' '<+' 4:' 26632)'*<'
4' ' 9' 29935@)(' =+'/+' +3' 62 '/'2*9' +2?' 4:' 26632)'*<' 4'
+3' /7 '39$ 2*?' 7*)399' ' ' +2?' @33*' 3* ')3?' 4' 6299' 93*C
3*/3' 764*' 97/+' 29' < 499)(' '*: '*<3?' ' 9')'@3 '39
+2' +3' /47* 3 B 3;4)7 '4*' 4:' ' 2 R7'*'79' 2*?' +3'
62 '/'2*9' ?'?' 2/ 72))(' ? ';3' @2/E' +3' /45 54*2) (' 94' :2'
: 45' +3' :2' ' '<+ 9' ' ' +2?' 2) 32?(' 32/+ ' +2' /3* 7 '39'
=3 3' *33?3?' @3:4 3' ' ' /47)?' 2<2'*' 52E3' ' 9' =2(' 2<2'*9'
='*?' 2*?' '?3' '* 4' +3' +2 @47' =+3 3' 2: 3' +2' 4(2)'
)3<'9)2 '4*' ' ' =29')('*<' '9' 3;'*/3?' 254*<' 4 +3' +'*<9' @('
+3' 9 2 3' 4:' +g')2='/4*/3 *'*<' ?3@ 9' 3' 2 3' ?'9 '*/)('
4)?' +2' 2')2='4:' E'*<' 3 ;'79' 2@4)'9+' +3' 6 2/ '/3' 4:'
6)3?<'*<' +3' 63 94*' 2*?' 97@9 ' 7 3?' +2' 4:' 6)3?<'*<'
6 463 (.ZT$ +3' 93):9253' 53297 3' @(' =+'/+' +3' /3 3)'2*

' 7K7'' '+ + +'' ' H' $ '.' +KC' $' =7' $?7 +?'' '
' +?' 27 '' $' =7' P7 C+?'F
$ $$$ $?I' &'' 'F'B [$$' ' 2' d' ' & - % ' '
'" e D -,' %% #p' LH!Y' 2 ' "8' S'"!' a&C' #$- E' &L '
- $ C' 1 .!' C&8&, ' D9I 7q ' ' $2 & & ' -' ' '
' %G' $ U>" r ' " ' ?' =7' '+C7' =+ +?K&7' =7' C+L7''
7 &'' & =7' '+I' =+' =7' %&? ? ?'' '=$& % ?$' =7? 7 $ 2+ % H7
7?4$I7% HI' =7' &'& F ?K' F+ +?'' H&' HI' =7' F 7H7 +?'' 2=$ =+% 2$?'
=7C' 2 =' =7 ' H $$%' $' =+' =7' +K + +?' +2' 2+'' L72 '7 7M
7 7% $ =7' '+C7' $&?%7' $' 7 7 I' $?' & $?+' K=

)2= 52?3 2 *3= 364/+ '* +3 : 33?45 4: +3 6)3@9
'9 :7 +3 92'? +2)''9 @3*3:'/3* 3*2/ 53* =29 3C
632)3? @(2 R7'*'79 +3 (2* Z I\$ 2*? +3 62 '/'2*9
/4* ';3? 4 6 3;3* ' 9 3*3=2) :4 =4 +7*? 3? (32 9
2: 3 +3 @2*'9+53* 4: +3 E'*<9

+3 9 4 (+2 3 ;'79 532* 4 39'<* +3 + 4*3
2*? +2;3 2**72) /4*97)9 3)3/ 3? 52(+2;3 29 '*93/7 3
2 +'9 4 '/2) :47*?2 '4* 29 +3 2)3 4: +'9 @' + 3;3 C
+3)399 ' 64'* 9 ?3/'?3?)(4 2 *3/3992 (/4**3A'4* =)''/+
!/45 54* 2?' '4* 2*? 46'*'4* 63 /3';3? @3 =33* +3 /4*C
97)2 3 2*? +3)2=9 @32 '*< +'9 *253 +'9 '9 ?'9 '*/)('
'56)'3? '* '; (09 9 2 353* +2 +3 :' 9 /4*97)9 =3 3
/+493* '* /4*:4 5' (4 +3 /45 53* 2 '39 4: E'*< 3 ;'79
7))'79\$ +493 /45 53* 2 '39 B=+'/+ /4* 2'*3? 2 ?3 2')3?
9/+353 4: +'9 /4*9 ' 7 '4* 29 +3 R74 2 '4*9 '* %39 79
9+3= *? 9'*/3 4*3 '9 7*='))'*< 4B 97963/ +2 +3
27 +4 4: 94 < 32 2)3<'9)2 '4* =+4 +2? +3 64=3 4
:29+'4* ' :4 +'9 67 64939 =47)? ?4 2*(+'*< +2 579
+2;3 ?39 4(3? ' \$ +3 ?39'<* 4: +2)3<'9)2 4 =+45 =3
/2)) 3 ;'79 7))'79 579 +2;3 @33* ' =47)? 9335 4
6)2/3 +3 =4 : 33 39 2 39 4* 2)3;3) '* +3 J /4*97)2 3
29 =3)) 29 3)93=+3 3 '* +3 52**3 '* =+'/+ +'9 =29
3::3/ 3? @(+3 3)3/ '4* 4: 7 79 2*? 63 52*3*)(
@(+3)2= 4: '/'*'79 2*? 3A '79 : +3 ?'?
4 ': +3 4)(/ 32 3? =4 2**72) 52<'9 2/'39 :4 +3
+47939 ' *?)3: +3 /45 54*2) (=' +47 2*(/4*97) : 45
' √ 4=* @4?(' =29 '* 2 =4 93 /4*?' '4* +2* **?/ 2

ⅡKK 08*- 2-/ @ " .92 8 2- -1@18 -" :'0 ,"@1 :1-'.0*1:
,1 '")!1-'08 + , (, ',1-1)1816 (18" !"+- +1.1 + . ''18 ,1-1 ',18
42- ,"@1)118 ',1 6 6'* -50D18 06 8 @ /',1 40:1 06 418' 08 87
+, (, \$# X# 45! 1-', " ',1* +1.1 80 !0871. 8 1; -'18(1/ "8: "(G
(0.: 87!* +1.1 80" (045.1,18:1: 8',1 H"5 . "8 (0!!1(' 08 6', -
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'" 8 ',1 !"+- +, (, ',1 .1-(8:1:? ',1 . 80")1 87 6028: 8 -
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87 :1-'.0*1: ',14 8 "6 06 5"-- 08 .04 ', - ,0+1@1. "18-21-
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9'*<)3' 976 353' +32?' =+4' 3 2'*3?' +'9' :7*/ '4*9' :4 ')':3 '
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+3')4*<3 ' +3' 3'<*3?' : 45' +3' 6 3,7?'/39' 4:' +3' 4 ?3 '
47 ' 4:' =+'/+' +3' +2?' 6 4/33?3?$' 6 3,7?'/39' @(' =+'/+' 2*'
2**72)' 52<'9 2 3' =47)?' /4* '*73' :3 3 3?' *?' @(' *4'
<2'*' 92;3' +2 ' 4:' 7*';3 92)' : 33?45 ' /47)?' +3' 62)62@)3'
5'9/+'3;479' /4*93R73*/39' 4:' 2' ?';'?3?' <4;3 *53*' @3'
/47* 3 @2)2*/3?

s

(‘ 3<2 ? 4 +3 67 6493 4:‘ +3 3 ;'2* /4*9 ' 7('4* 4 '562 ‘ 2* 3R72)‘ 9+2 3 '*V+3 /4*97)2‘ <4;3 *53*‘ 4 +3 6)3@3'2*9‘ 3;3 (‘ 4*3 52(+'*E 29 +3)'E39(+2‘ ' ‘ < 2* 3? +35‘ +3 '<+‘ 4:‘ 2E'*< 62 ‘ '* 3)3/ '4*9‘ 2*? '*)3J9)2 '4*‘ '9 7*';3 92))(‘ 2/E*4=)3?<3?

3 ;'79‘ 29 :4‘ +3 92E3 4:‘ @ 3;' (‘ ‘ ='))‘ /2))‘ +3)2=‘ <';3 ‘ '* 2//4 ?2*/3 =' +‘ +3 = ' 3 9 4:‘ 2* 'R7' (‘ =47)? +2;3 2E3* +3 9' 56)39‘ 53 +4? 4:‘ @39 4;?*< +393 '<+ 9‘ '.‘ +3 +2? 2?46 3? +3 9253 6)2*‘ =+3 3@(+3 /45 54*9 '* :37?2)‘ 9 2 39 4@ 2'*3? 2 9 2 '4* 2)4*<9'?3 4:‘ +3 @2 4*9‘ 2*? +2? 4 ?2'*3? +2‘ 2))‘ *2 '4*2)‘ /4*/3 *9 9+47)? @3 @ 47<+‘ @4 +‘ @3:4 3 +3 /47*/')‘ 4:‘ +3 @7 <+3 9 2*? +2‘ 4:‘ +3 /45 54*2) (‘ 2*? +2‘ +3 ?3/ 33 4:‘ +3 4*3 9+47)? *4‘ +2;3 :4 /3 =' +47‘ +3 266 4;2)‘ 4:‘ +3 4 +3 ‘ 02*? 9+47)? @3 52?3 *7)‘ @(‘ ' 9 3,3/ '4*‘ +'9 =29 +3 :44 '*< 4* =+'/‘ +3 6)3@3'2* '@39 '* 2: 3 '539 9 44? '* 3)2 '4* 4 +3 /7 '39(@7‘ '.‘ +393 =4 @4?'39 +2? @33* 93‘ 76 4;3‘ 2<2'*9‘ 32/‘ 4 +3 ‘ : 45‘ +3 @3<'**'*<‘ +3(‘ =47)? +2;3 3*‘ +3 9 2 3 297*?3 G 4 2//456)'9‘ ' 9 63 :3/‘ 7*'4*‘ +3 /3* 7 '39 =3 3 ?3;'93? @(‘ 3 ;'79‘ %4‘ '* +35‘ +3 /4))3/ 3? +3 62 '/'2*9 2*?)'3' ‘ /)'3* 9 4<3 +3 ‘ =' ‘ +3 6)3@3'2*9$ 2*? 2)4*< =' ‘ 2))‘ +393 +2‘ *3= /)299 4:‘ +3' ‘ :3))4=B/' 'H3*9‘ =+'/‘ +2? 2 '93* : 45‘ +3 < 2* ‘ 4:‘ +3 4 52* : 2*/+'93 4‘ +3 '*+2@' 2* 9 4:‘ 4 +3 ‘ 4=*9‘ +3 57*'/'62)9(94 +2‘ *4@4?(‘ /47)? '* 2*(‘ =2(‘)44E 764* +'593):‘ 29 2 452*‘ =' +47‘ +2;'*<‘ 9453 6)2/3 4‘ 4 +3 ‘ +47<‘ ' ‘ 5'<+‘ 4: 3* @3 2 ;3 (

'*9'<*':'/2* ' 4*3 ' '* +'9 < 32 ' 29935@)(''4I ' +3 6 3C
64*?3 2*/3 ' *2( )J3 J;+4)3 64=3 ' '* +2 ' 29935@)( )2(
=' + +3 6)3@9 ' +'9 +4=3;3 ' 3A/' 3? *4 '))B=')) ' @3C
/2793 *4 4*3 =29 3A/)7?3?$ 2*?6 4;4E3F *4 46649' '4* '
@3/2793 ' ' ?'? *4 ' ?3/'?3 @(' ' 93): ' @7 ' 9 44? 4* 2* 3R7'C
64'93 =' + +3 /7 '39
+'9 '*9 ' 7 '4* 4: h +3 /3* 7 '39 +29 + 4=* +2 ' 4:
+3 '@39 /456)3 3)(' '* 4 +3 9+2?3C 2*? + 47<+ +3
:4 53 ' 2)4*3 +29 +3 *253 4: E'*< 3 ;'79 55* 2'*3?
' 9 3*4=* 4 47 ' ?2(9 ' 4 34;3 ' ' =29)4*< 2*?7*'C
;3 92))(' ?3353? 2 93)3? 64'* ' +2 ' +'9 '9 7*?3 9 44?
=' + 54 3 /3 2'* (' 2*? 2//7 2/(' +2* 2*(' 4 +3 ' 62 '
4: +3 452* /4*9 ' 7 '4*$ @3/2793 ' ' '9 ?39/ '@3? @('
#'4*(9'79 2*? ';(' 2*? +2 ' ?39/ '6 '4* '9 /47/+ ' '*
*75@3 9 ' *)(' 2 ;3 (' :3= 54 3 /)32 9'<+ 3? 9/+4)2 9
;3* 7 3? 4 6 4*47*/3 ' +2 ' 2 ' 2)) 3;3* 9 +393 36 3C
93* 2 '4*9 ?4 *4 ' 97' ' +3 '539 4: '=+'/+ =3 +2;3 2
/4* 3564 2 (' +'9 4 (' ' 6 393* ' +'9 '* +3 52'* '9
4)4<3 ' /4* 39 3?$ 2*? 2 :2 ' 54 3 27 +3* '/ 3/4 ?
+2;'*< /453 4)'<+ ' +3 3 053 /4554* 4 +3 =4
+'9 4 '2*9 ' 2*? +493 63/7)'2 ' 4 32/+ ' 52(' @3 92 '9:2/C
4 ')(' 64'* 3? 47 ' +3(' /2**4 ' 3' +3 ' 4: +35 +2;3
@33*' 2/R72'* 3? =' + +3 2//47* ' /4* 2'*3? '* +3 /45C
53* 2 '39 29/ '@3? 4 +3 E'*< +'593): ' @7 ' +2;3 = ' 3*
:' 45 ;3 (' ?'::3 3* ' 2*? ;3 (' ?3:3/ ';3 364 9 ' 9 4
'/3 4 ' +3 4*)(' 3294* +2 ' '*?'964939 9 4 @3)'3;3 +'9
+2;'*< ? 2=* '5 53?'2 3)(' : 45 +3 27 +3* '/ 947 /3 ' '9
+2 ' 3 7?' '4* 4: +'9 94 ' =29 *4 ' '* @'9 =2(6 3)93)''9
9 2 353* 9 2 3 3A/33?'*<)(' 2//7 2 3 2*? 79 =4 +('
+3 5'9 2E39 4: +3 =4 +'9 4 '2*9 B*33? *4 ' 97 6 '93
796 :4 ' +3(' =3 3 *4 '9632E'*< 4: 2* '*9 ' 7 '4* 9 ')) 3AC
'9 '*<' *4 ' 3;3* 4: 4*3 +2 ' +2? 3/3*)(' @33* /+2*<3?'
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6 399)(' +2 ' ' +2? *4 +'*< '* /4554* =' + +3 /4*9 'C
7 '4* 4: +3 /3* 7 '39 '*' +'9 ?2(96 2*? +'9 54 34;3

'9 +3 ;3 (3294* =+(+3 ?39/ '@39 ' 29 +3 ?439 +3 2*/'3* 2/ '/9 '* +'9 2//47* 4: +3 2 '* =2 "2 '479 4 +3 9 2 353* 9 579 +2;3 @33* /7 3* /4* 2'*'< 9 ')) < 32 3 ?'9/ 362*/'39 :4)'*(2E39 2939 29 +3)'5' :4 +3 6 463 (4: +3 :' 9 /)299 3))'79 ; *75@3 9 =+'/+ /2* *3' +3 @3 3<2 ?3? 29 @)7*?3 9 '* +3 52*79/ '6 9 *4 29 9)'69 '* +g = ' 3 9

* 4*3 64'* @4 + +3 +'9 4 '2*9 2'3 5'9 2E3* 4*0 :47*?'*< +3 @7 <+3 9 =' + +3 /45 54*2) (+3('52 <'*3 +2 2 6346)3 '* =+'/+ ')) +3* 63 :3/ 7*'4* 2*? 3R72)' (+2? 6 3;2')3? =29 *4= ?';'?3? '* 4 /)29939 2/0 /4 ?'*< 4 6 463 ('* 97/+ 2 52**3 +2 2) +3 64=3 :3))' * 4 +3 +2*?9 4: +3 '/+ +47<+ 3*/75@3 3? =' + *4 9)'<+ @7 +3*9 #'4*(9'79 2??9 2*4 +3 3 47 4 +'9 '*)44E'*< 764* +3 3'<+ 33* 3R739 '2* /3* 7 '39 =+'/+ +2? +3 :' 9 '2*E '* +3 /4*9 ' 7 '4* 4: 3 ;'79 29 2 '54/ 2 '/2) '*9 ' 7 '4*

+3 6 '*/'6)3 4:2* 2 '9 4/ 2/('9 4 52'* 2'* 2 63 :3/ 3R72)' (=' +'* ' 9 4=* @4?(+3 644 39 2*? 4@9/7 39 # L "3*'/3 '* 4 =+493 :25')(*4 4:' /3 4: ?'<*' (+2? /R5/ :4 //* 7 '39 =29 39 3353? '* +3 < 32 /47*/') 29 +3 3R72) 4: +493 =+493 =32) +' 2*? *253 3*/' /)3? +35 =' + 96)3*?47 <4;3 *53* :4 53?)'E3 +3 452* @(2)2 <3 @4?(4: +47939 '9 2 /456)3 3 ?354. / 2/(=' +'* ' 93): ,79 29 57/+ 94 29 +2 4:2 /2* 4* =+3 3 +3 6467)2 '4* '9 *4 54 3 *753 479 ' '9 2* 2 '9 4/ 2/(94)3)('* ' 9 3)2 '4* 4 +3 /4554*2) (+'9 =29 5'97*?3 9 44? @(# '4*(9'79 2*? ';(s /+2*<3 =29 52?3 @(3 ;'79 '* +'9 3R72)' (4: +3 2*/'3* @7 <+3 9 +'9 '54/ 2/(4*)(2::3/ 3? +493 =+4 9 44? 3* ' 3)(=' +47 +3 62)3 4: +2 @4?(4 +493 =+4 2 +3 7 549 =3 3 2 2/+ 4 ' ! @7 :2 : 45 62 2E'*< '* +3 9253 3R72)' (J

+3 9'A 3R739 '2* /3* 7 '39 39 2@)'9+ @(2 R7'*'79 =3 3 '*/4 64 2 3? @(3 ;'79 '* 4+'9 /45 ' '2$ 2*? 3/3';3?

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+3 *253 4: +3 9'A) +2 +393 /456 '93?
2)) +3 62 '/'2*9$ 254*< =+45 ' ' /2**4 @3 /4*/3';3?
+2 '* +'9 /4*9 ' 7 '4* 2*(54 3 +2* '* +3 32)'3
+3 3 3A'9 3?2*(?'9 '*/ '4* 2?26 3? 4 +3 9/2)3 4: +3' '
6 463 ('; (+47<+ +3 :4 <4 +2 +3 9'A /3* 7 '39
+2? @33* '*9 ' 7 3? @(2AR7'*'79 52E39 2 63 :3/)(/4 C
3/ ?'9 '*/ '4* @3 =33* +35 2*? +3 =3);3 =+'/+ =3 3
2??3? +(3 ;'79. I I .$ 6
29 +3 92(9'6 +3 47<+ 4 +2;3 92'?' :4
+3 62 '/'2*9 =3 3 '* +3 9'A *4 /2* 2*(4:
+35 +2;3 @33* 2?5' 3? '* 4 +3 =3);3 /3* 7 '39 #'4C
(9'79 +3 3:4 3 9+47)? +2;3 /4:'*3? +'593): 4 +393
=3);3 /3* 7 '39 =+3* +3 /4*/3';3? +2 +3 E*'<+ 9
=3 3 /+493* @(3 ;'79 47 4: +3 '/+39 2*? 549 '))79C
'479 :25')'39$ =+'/+ *4 '4* +3 3A 3*?9 4 2)) +3 3'<+C
33*. %4 +^ 62 '/'2*9 =+4!7*R739 '4*2@)(29 2 @4?(
=3 3 +3 '/+39 29 =3)) 29 +3)32?'*< 53* '* +3 9 2 3
+2? 2)) 4: +35 6)2/39 '* +3 9'A @(@' + 2*?
?39/3* +47<+ 62 '/7)2 '*?';'?72)9 254*< +35 5'<+
+2663* 4 @3 ;3 (644
)93 ' ' '9 /)32 : 45 +3 Q/+2 2/ 3 4: +3 53297 3
+2 +3 63 94* =+4 2 2*<3? +'9 ?';'9'4* 4: 2*E9 =+3*
+3 /4))3/ 3? +3 *4 2@)39 2*? 9362 2 3? +35 : 45 +3
/R554*2) (=47)? 6299 4;3 97/+ 4: +3 *4@)39 4: 3B
?7 '2 4 3))3*2 29 =3 3 4 2))(3?7/3? 4B64;3 (2*?
'*9'<*':'/2*/3 2*? =47)? 3* 4))* '* +393 /3* 7 '39 97/+
4: +3 53 3)(: 33@4 * '*+2@' 2* 9 29 '* /456)'2*/3 =' +
+3 *4 '4* 4: +3 /)299 649939 =32) + 3*47<+ 4 !3R7'6
2 +4 9352* 6 4;'?3? +3' +4*47 =29 7* 2 *'9+ '$ *4
+493 =+493 /+2 2/ 3 9 44? +3 +'<+39 ':' +3' 532*9

##$ 1-'2-/ 1; 2 6."7 "/ 8 : .1(0550- ' 08 '0 ', 1 '.2', /
'"D1- ', 1 - ; '0 ', "@1)118 ', 1 (18'2. 1- 60.41 :)* 1.@ 2- 0 ', -
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6 ? J S($ .SX23X;"/ #!
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=3 3 44 952)) 2 '79 =47)? *4 +2;3 @33* 6)2/3? J7*4*< +3 E*'<+ 9C +3 4@,3/ 4: 3 ;'79 +4=3;3 =29 *4 4 @39 4=5 6 'H39 4* +3 ;' 739 4:5 '*?';'?72)9 @7 4 39 2@)'9+ 2* 39 2 3 '* +3 *2 '4*$ 4 7*' 3 +3 6)3@3'2* *4 2@)39 =' + +3 62 '/'2* 4=5 254*< +3 w 33E9 =+3 3;3 +3 2*/'3* <4;3 *53* ?'? *4 ?='*?)3 '* 4 2* 4)'<2 /+(+3 54?3 4:5 3::3/ '*< +3 2*9' '4* 4 +2)2 3 4 ?3 4:5 +'*<9 =)''/+5 +3 /47 93 4:5 *2 7 3 @ 47<+ 2@47 =29 :4 +3 35*2* 4:5 2 ?3/2('*< 2 '9 4/ 2/(7*' 3 '* 4 4*3 /)299 =' + +3 '/+3)2*?3? 6 46 '3 4 9 2'+4*< +3>P/45 54*2) (+3 HK] J +'9 /)299 : 45 @ J <5 2@)3 4 ?3: 2(+3 3A63*9^.5 4:5 93 ;'*< 29 +4 9353* 47 4:5 +3' 4=* 532*9 @4 3 +3 *253 4:5 E=-$$ =+'/+5 '* *<)'9+5 '9 @39 3*?3 3? @(+3 =4 ?% 2) +47<+5 /3 2'* 2994/'2 '4*9 579 @3 <72 ?3? 2<2'*9 '* 79'*< ' '3 33E 6+')4946+3 9 =+3* +3 2*/'3* *4 '4*9 4:5 2*/39 (+2?)4*< @33*)49 ?3:'*3? *4@J (4 /4*9'9 2//4 ?'*< 4 +3 =2(4:5 +'*E'*< +3* 6 3;2)3* 4:5+3 3C ?' 2 (<44? @' +5 4<3 +3 =' +5 +3 3?' 2 (B =32) +0 ITI +3 3 64;3 (+29 '* 7?3?' *4*3 @7 2 5'+ 2 (*R@)399 ! 97/+5 29 +2 =+'/+5 93;3 2)5 3 52* 6 4;'*/39 2E3 6 '?3 '* /2* 52'* 2'* +3 /+2 2/ 3 4:5 +3 /)299 '* 67@)'/5 46'*'4* =+'/+5 2)4*3 6 393 ;39 ' 2(+3 6 ';')3<3? /)2993 +2;3 7*';3 92))(39 3353? =32) +5 2*? +3 47 C =2 ? 96)3*?47 B +2 :)4=9 : 45 ' 29 +3 4*)(+'*< =+'/+5 /2* 6)233 2*(4*3 4* 2?)3;3)5 =' +5 +3593);39 7/+5 +29 2)=2(9 @33* +3 /293 +3 3 2/)'? '9 4B ?3579 +3 6 4<3*' 4 4:5 +3 62 2* E'*<9 92'?' 7 % V J)/2379 3632 3? ' '* ?9 94*<9 29 2 92('*< 4:5 +3 ='93:&W2*? @293 29 +'9 947*?9 @293 29 ' '9 9))5 ' /2**4 @3 ?'967 3? +2 '* 2* 7*?3 2E'*<)'E3 +2 4:5 E'*< 3 ;'79 =32) +5 2*? *4 @2 3)'*32<3

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+3 975 4: 3* +4792*? 2939 :4 +3 67 /+293 4: 2 +4 93 @(+3 9'?3 4: +3 9759 2 =+'/+ 4A3*' 2*? 9+336 =3 3 2 3?' '*' +3 2@)3 4: 63*2) '39 . 9335 9 9m 3A4 @' 2* +2 +3 /4 3/ *399 4: +3 *75@3 +29 @33*' R739 '4*3?' 7 '*' +3 :' 9 6)2/3 ' =29 *4 4 @3 2 /4554*' B*2<G 2*? /4562 3?=' +' 97/+ 2 4*3 2 4533 29 3)93=+3 3 2 =2 B+4 93 =47)?' *2 7 2))(@3 ;3 (?32 39'?39 +3 3R7'653* =29 '*/456)3 3 =' +47 2)329 2 < 445 2 9)2;'. =+4 =29 4 @3 @47<+ 2*? +3*' 4 @3 547* 3?' *3 9+47)?')'E3 4 E*4=' =+3 +3 +3 9 2 3 ?'?' *4 2)329 36)2/3 +4 939)49 4*' +3 :'3)?' $ =+3 +3 2 +4 93C 52*' ?'9/+2 <3?' 4*' 2//47* 4:' 2<3$-' 4 +3 +3' 9 4:B 2 ?3B /329 4*3 +2?' *4 4 62(@2/E +3 3*' +4792*?' 2939 =+'/+' +2?' @33*' 3/3';3?' +393 2 3 R739 '4*9 4 =+'/+' 2)7/E(5453* 4:'/4*,3/ 7 3 =')' +2 ?)(?';'*3 2*' 2*9=3 7 97 3)(/2**4 @3 5'9 2E3*' '*' 976649'*< +2 =+3*' +3 /3*94 /4552*?3?' 2 E*'<+ 4 93)' +'9 +4 93 +3 '*C 3* '4*' =29 +2 +3 63 94*' +79 ?3< 2?3?' 9+47)?' 3:7*?' +3 47 :' B54*3(+3 +2?' 3/3';3?' 4 +3 9 2 3 2*?' 9+47)?' 6 4/7 3 +3 532*9 4:' ?4'*< 94 @(+2 92)3 G +3 /2**4 +2;3 +2?' +3 '<+ 4:' @2 <2'*'*<=' +' 2*4 +3 63 94*' 2*?' 3* ')'*<+'5 4*' +3 62(53*' 4:' +3 3*' +4792*?' 2939 4 3* 3 '*' +'9 9 32?' '* 4 +3 3/3' 4:' +3 2**72) =4 +4792*?' 29 ':' ' +2?' @33*' 2 2*9:3 2)3 4:' /3 4 ! $ `#) %4 +'9 63*2) /4552*?' 4:' +3 /3*94 9 /4* '*73?' '*' 793 ?4=*' 4 +3 3*?' 4:' +3 367@)'/$ =+3*' +3 6 2/ '/3 +2?')4*<@33*' 4<';3 +3 E*'J 9 62(2*?' :4?C ?3 '*' 445 4:' +2 2))4=2*/3 +'9 /+2*<3 +2?' 2) 32?(@33*' '* 4?7/3?' '*' +3 '53 4:' 4)(@'79 *'<+ 9 +4 ?39 :7 *'9+ @(+3 9 2 3 2 3 53* '4*3?' '*' '*9/ '6 '4*9 7*?3 +3 3563 4 9 29)4*<29 +3 4)?' '*9 ' 7 '4*9)29 3?'$ +47<+' ' '9 /3 2'*)('*' 2 ;3 (?':'@ 3* '93*93

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/'6'4 '* '/3 409 ?'2)4<73 ?3/)'*39 3* 3 '*< '* 4 2 ?3 2')3? 364 4: +3 3 ;'2* /4*9 ' 7 '4** 4: +3 /3*C 7 '39 ' @3'*< 2 52 3 =))E*4=* 4 +'9 : '3*?9 *')'E3 52**3 44 52(@3 3A/793? : 45 /47* '*< 76 +4= +3 k /3* 7 '39 =3 3 ?'9 '@7 3? 254*< +3 :';3 /)29939 +3 3 2 3 Q=4 64'* 9 +4=3;3 =+'/+ =47)? *4 6299 4;3 * +3 :' 9 6)2/3 +3 452*9 E*3= 4*)(4: :';3 /)29939 94 +2 #'4*(9'79 =+4 /2))9 97/+ 29 <2;3 '*)399 +2* 2939 2 9'A +/)29 '9 ,79 29 57/+ 5'9C 2E3** '* +'9 29 =+3** +3 2))4=9 +3*:4*)(4*3 /3* 7 (

11 1$ (' (' 1 !,80 50-G -)!* ,"@1 41"8 8: @ :2"!- ,1.1/ = 60.'! -+02!:' ," 1!1:'0 8'1.G 4 8")!1("!(2!"' 08-/ =')2 /

42- "!-0 ":@1. 60.' 40418 '0' ,1 : @ - 08 8'0 (!"--1- 1-'")! -,)* 0!08? 62./ + ', "8 "55".18 ! D181--'0' ," 06 1.@ 2-/ , "-' ' '0'"!!* : 661.18 (," ('1. ,1 60.41. .1!"'1:' +,0!!* '0' ,1 1! 7) ! '* '0' 066 (1-/ ',1 !"'1.'0' 1!1(' 08- 0' (04 ' "((0.: 87'0' ,1 602.' (!"--1- +1.1 1@1. ,1!:' " ', 18-?)2'/ "-' ,1 ".(,08- 8' 0!:' 41- (02!:' 08!*)1 (,0-18 02 06 ',1 6 .- SH!2'".(,/ . -' :' (' #/ "8:' ',1 602.',' +"- 1;(!2:1:' 6.04 :! 066 (1-/ -0 ',1 -1(08:' 42- "!-0 ! "@1 ,":' (1.' 8 5. @ !171- ")0@1 ',1 ', .: 8 ',1 '' (' (!"--1- ',1 ,02-1- "8:' ',1 (04408"!'* +1.1 8'1.4 ;'3 1@18 6 ',1 1;5.1-- 08 06 141'. 2- H,"!1.12- 920'1:' 8 ',1 5"--"71 I2-.161..1:' 0/ =' %# 1 ', T/="2',0. _1 2- '0 (08(!2:1' ',"" 4087 ',1 5(8'"(2-!041: 48- 8081)2" ',1 414)1.- 06 ',1 ,02-1- +1.1 "!!0+1:' '0 :."+ !0'- 60.' ',1 : 78 '* 06 ',1 ".(,08 1508U*42- 9:' 1@18 ',1 !"8:1:' 5.051.'* +"- 08!* ."'1:' " ',1 @"!21 06 ',1 (.05- >

\ / 3A +3 3 2<2'* +3 3<7)5 (' 4: +3 9/2)3 2997 3?)(' 67 9 ' @3(4*? 2 R739 '4* +2 @'9 9 2 353* 4: +3 :4 7*3 4: +3! :': + /)299 2 S4M== 2939 4 ? 2/+59 2*? +4 '; (09 2 2939 '9 +3 /4 g/ '4*3 +3 +3 +3)29 =29 4//29'4*3? @(' '; (09 :'*?'*< ' 53* '4*3? 9453=+3 3 +2 +3 ?'::3 3*/3 @3 =33* +3)'5 B4: +3 :': + /)299 2*? +3 6 4)3 2 '2*9 2547* 3? 4 2939 Y 4 =+3 +3 +3B2//47* =+'/+ <2;3 +3 :' 9 /)299 w 2939 39 '52 3? +3 :': + 2 2 3* + 4: +'9 29 +3 975 '* #'4*(9'79 =47)? @3 2 3* + 4: +3 2939 =+'/+ 4 +3 9 299'<* 4 +3 :' 9 /)299 Y '/2**4 @3 ?3/'?3?$ +47<+ +3 :' 9 '9 +3 54 3 6 4@2@)3 94)7 '4*G @7 ' ' '9 *4 2 =29 3 4: '53 4 /4*9'?3 +4=97/+ 2* 3 47 52(' +2;3 2 '93*

+3 /)29939 2*? +3(' 2)4*3 =3 3 ?';'?3? '* 4 /3*C 7 '39 4: +3 ,7*'4 9 2*? +3 93*'4 9 3R72) '* *75@3 '$ +3 :4 53 ?39 '*3? :4 93 ;'/3 '* +3 :'3)?,' +3)2 3 :4 +3 ?3:3*93 4: +3 /' (G +3 2<3 4: +3 93*'4 9 @3<2* =' + +3 /456)3 '4* 4: +3 :4 (B:': +' (32 '!I.I +3 +3C 4)4<(' 4: +3 452*9 27<+ 'V' +2 =3);3! '539 3* 94)2 'P (32 9 =3 3 +3 3: * :'A @(' 2 7 3 :4 +3)':3 4: 52* 2*? +2 @3(4*? +'9 +3 <4?9 +3593);39 +2? *4 64=3 4 6 4)4*< ' $ +2 %2 3 +2? *2 4=3?' 9 962* 4 + '/3 +' ($ +2 %4 7*3 2@ '?<39 3;3* +'9 63 '4? @(' 2 ;2 '3 (' 4: /+2*/39 G 2<2'*9 +393 +3 6 4 3/ '4* 4: +3 <4?9 =29 '56)4 3? : +3)3*< + 299'<*3? 4 52*09)':3 @(' %2 3 ,79 +2):' '9 52 E 4::' @(' +3!2@4;3B53* '4*3?)'5' G 2*? 9'*/3 @4(+44?' 2//4 ?'*< 4 "2 s /329 =' + +3 :': 33* + (32 2: 3 +3 /)493 4: =+'/+ +3 6 5 3A 2 =29 3A/+2*<3? :4 +3 52*)(' 4<2 2 +3 *3A '@3 2)'2 =3 +3 3 2<2'* :'*? +3 *75@3 +' (' 2 +' ?62 4:52*09 =+4)3)':3 '53

" ..Q/920'1:')* 18-0. 82-/ 08*- 2-/ @ N '.L~@ - # ' ' ' (' 9 <;c . #L<"$

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29 +3 *75@3 4: +3 (32 9 /4* 2'*3?' '* +3 ;'<4 479 6 '53 4:)':3 3 3 2<2'* ! +3 *75@3 9 +3593);39 2 3 2 97 3 + 327 4 <7'?3 79 2*?' =' + 3:3 3*/3 4 T +3 4 '<'*2) '*9 ' 7 '4* 4: 3 ;'79 =+2 3))'79 9 2 39 4* +3 27 +4. ' (' 4: 7@3 4 +2 63 94*9 =3 3 *4 3/E4*3?' 93*'4 9 7* ') +3 /456)3 '4* 4: +3' :4 (B9'A + (32 .Z .' '9 /3 B 5*)(' 3 4*3479 +3 3 5 4:5')' 2 (' 93 ;'/3 52(' 2)=2(9 +2;3 @33* ?3*4 3?' @(' +3 3A6 399'4* +P +'9 +4=3;3 532* +3 63 94* =+4 +2?' *4 (3 3* 3 3?' '* 4 +'9! :4 (B9'A + (32 I0 +2;3 *4 4;3)44E +2 +'9 (32 '9 '*/)7?3?' @(' 4)(@'79 '* +3 5')' 2 (' 2<3 .Z @7 +3 3A 3*9'4* =29 4//29'4*3?' @(' +3 =2* 4:2 54 3 6)3* :7) /+4'/3 4: 53* +2 ?3*3?' @(' 93 C ;'/3 :4 +'9 67 6493 2?;2* 2<3 =29 2E3* 4: 2* 3AC 6 399'4* +3 532*'*< 4: =+'/+ *2 7 2))(' @3/253 '*?'9C '*/ =+3* +3 <3*3 2) /4**3A'4* 7**'*< + 47<+ +3 2*/'3* '*9 ' 7 '4*9 +2?' @33*)49 ' 9'<+ 4: * +3 9253 52**3 7@3 4 2 /4* 3564 2 (' 4: '/3 4 2 52* 4: @7C 9'*399 2*?' *4 2* 'R72 (' 2//47* 9 +3 9'A 33* + (32 02 62 4: @4(+44?..$ '* 46649' '4* 4 "2 s 2*?' 4 +3 3;'?3*/3 2::4 ?3?' @(' +3 9(553 (' 4: +3 *75@3 9 2*?' 7*R739 '4*2@)(' B 2 7 3 ?'?' *4 2))4= +3 93): 4 @3 ?'/ 2 3?' 4 @(' 97/+ :4 59 *4 ?'?' +3)2?' 4: :': 33*Z67

A/ÅL ℓ :'"8824'92":."71- 424'-1;'24'I28 0.1-/-25.'" 124' "8824'-18 0.1-'"551!!"--1' f @*//6 D7

Y 2(,'"- +1.1 W W +1.1 5.0,) '1:/ + ','"61+1;(15' 08-/6.04 ,0!: 87 066 (1- 06'.2-" 0.: 78 '*'?)2" W #%!5 "8/ :1 4281.)2-S #8'"8'"66" .'(0881('1:+ ','(08-' '2' 08"!'!"+'%1 1;5.1-- 08'+"- 8'1.5.1'1:'"6'1.'','1'"8(18"!17"!'5."(' (1

ÅA ,1 04"8-'".1'!")!1'0','1'(08-(.5'08' ' m 4 @ F

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N

4*' 9 3*< +J:4 ' 2' /2562'<*' 4<3 +3 ' =' +' +3' 52*)(' 4<2 ' //4 ?'*<)(' ?7 '*<' +3' :' 9 ' (32 ' +3' =29' E36 ' 53 3)(' 4' @4?')(' 3A3 /'939 ' 2*?' '*9 7/ 3?' +4=' 4' ?3532*' +'593):' 254*<' 53*6 2*?' 94')4*<' 29' +'9' 9/+44)'*<')29 3?' ' ' /2*' +2 ?)(' +2;3' @33*' +3' /79 45' :4 ' +'5' 4' ;4 3' '*' +'9' /3* 7 (' +79'' 3;3*' ':' +3' +2?' +3' '<+ ' +3' 52 3 ' =29' 67 ' 4:):6 2*?' ':' +3' '53' 4' @3' 963* ' 254*<' +3' ,7*'4 9' =29' 9 '))' 3/E4*3?' 2 +' (' (J2 9 ' 53*' =47)?' 4*)(' @3/453' 93*'4 9' =' +' +3' :4 (B93;3* +' //4 ?'*<' 4' =+2 ' 3))'79' :7 +3 ' R74 39' 47 ' 4:' 7@3 4 ' 2 ' =+4' =3 3' 2@4;3' :4 (B9'A' =47)?' +2;3' @33*' *75@3 3?' 254*<' +3' 93*'4 9$' 2//4 ?'*<' 4' 2' ?':3 3* ' =3))BE*4=*' 9 2 353* ' 4*)(' 97/+' 29' +2?' *4 ' (3 ' /)493?' +3' ' 9'A '3 +' (32 $' =' +' =+'/+' 2))' /';'/' '<+ 9' 3A6' 3?' +'9' 46'*'4*' 39 9' 764*' 3963/ 2@)3' 27 +4 ' '39'6 B2*?' +3' 4@)'<2 '4*' 4:' +3' ' 4' ?3:3*?' +3' /' (' 29' =3' 32?' '*' ';(' 9632E9' 9 4*<)(' :4 ' +3' ' +2;'*<' @33*' 9362 2 3' : 45' +3')' +3' 9253' ;'3=' '9' /4*:' 53?' @(' +3' 6 '*/'6)39' 4:' 33E' ?=6' :4 ' +47<+' '9 4)3' /4*9'?3 9' +3' 4)?' 53*' =+4 ' +2;3' 4@ 2'*3?' +3' ' ?'95'992)' 29' =3))' 29' +3' @4(9' =+4' 2 3' *4 ' (3 ' 3* 4))3?' '*' +3')'<+ ' 4:' /' 'H6*9 ' ' ' '9' 4*)(' 29' '563 :3/ ' 4*39!Z I

;3 (@4?(' 9339' +2 ' 4*3' 4:' +3' :7*?253* 2)' 6 '*/'6)39' '*' +'9' /4*9 ' 7 '4*' =29' 4' 2?26 ' +3' ?'9 '@7 '4*' 4:' 64=3 ' 2*?' 4:' 2 59' 29' +3' 532*9' 4:' 52'* 2'*'*<' 64=3 ' 4' +3' 9/2)3' 4:' 6 463 (' 2' 9/+353' 2E'*' 4' +3' +34 (' =+'/+' 3<2 ?9' 2' 9 2 3' 29' 2' ,4'* B9 4/E' /4562*(' 4 =' '*' +'9' 3)2 '4*' @3 =33*' +3' ,7*'4 9' 2*?' +3' 93*'4 9' (3 ' 2*4 +3 ' 67 6493' ?'96)2(9' '93):" +3' 2*/'3* ' *2 '4*9' 4: 3:2

! ' HO! ' (-U' 4 /' ' $"!' < ' ' D ' Y ' 8 "t ' 22 2 ' ' S1"f ! $o' 2 % - ' 0' @ : - ' 1 ' ' ' .08' .0L ."./ $' 066L4.' h' ,027,' 7.1"" 7181."!-' +1.1' -041' 41-' ("!!1:' 'O' ', 1' (044"8:' 06' ".4 1"" "" "' @1.*' ":@"8(1:' "71/ ', 1.1' -' ', 1' !1--' 60.(1' 8' ', -' ".72418" + ',' .17".:' 'O' 041/)1("2-1' ', 1' D8 7, '-' +1.1' 80" : @ :1:' "((0.: 87' 'O' ', 1 .' ' 41' 06' ! 61

A' ,1' 1921-'. "8' 0.:1./ "-' ,"-' I2-")118' .14 ".D'/ -'"8:-' "5". " 6.04' ', -'-*-'14

-* 79 3?‘ +3‘ /+2 <3‘ 4:‘ 2E'*<‘ /47*93)‘ :4 ‘ +3‘ /45C 54*‘ =32)‘ 4‘ +3‘ 3)?3 9‘ 3A/)79';3)(G‘ '*‘ 2‘)'E3‘ 96' ' ‘ +3‘ 93*'4 9‘ 2 3‘ 6)2/3?‘ 4*‘ 2‘ 62 ‘ =' +‘ +3‘ ,7*'4 9‘ 29‘ 4‘ +3‘ *75@3 ‘ 4:‘ +3' ‘ /3* 7 '39‘ 4 ‘ /2*‘ =3‘ :2')‘ 4‘ 63 /3';3‘ +3‘ ,79 *399‘ 4:‘ '/3 400‘ =4 ?9‘ +2 ‘ + 47<+47 ‘ +3‘ =+4)3‘ 9(9 35‘ +3‘ 2'5‘ =29‘ 4‘ =' +? 2=‘ +3‘ 64=3 ‘ 4:‘ ?3/'?'*<‘ : 45‘ +3‘ 52,4 ' (.G‘ :4 ‘ '*‘ +'9‘ =2(‘ +3‘ 5'*4 ' (B=3 3‘ 4‘ 6 364*?3 2 3‘ 3;3*‘ =' +'*‘ +3‘ 9253‘ /)299‘)'2 ‘ '9‘ 4‘ 92(‘ +3‘ 93*'4 9‘ =+3 +3 ‘ =3‘ 2E3‘ +35‘ '*‘ +3‘ ='?3 ‘ 4 ‘ +3‘ *2 4=3 ‘ 3A 3* ‘ =3 3‘ 57/+‘ :3=3 ‘ +2*‘ +3‘ ,'5'4 9‘ 3 '7*9‘ 4:‘ 6467)2 '4*' 2 2*<3?‘ 2//4 ?'*<‘ 4‘ +3‘ ?'::3 3* ‘ 63 '4?9‘ 4:‘ +752*‘)':3‘ 2 3‘ 2 3$‘ -4 ‘ ?4‘ ‘ E*4='‘ 4:‘ 2*(‘ 2)'2*‘ 4*3G‘ 2*?‘ /3 2'*)(‘ +3‘ 3)2 ';3‘ *75@3 9‘ 579 ‘ '*C 3;' 2@)(‘ ;2 (‘ '*‘ ?'::3 3* ‘ /)'52 39‘ 7 ‘ 2997 3?)(‘ =3‘ 9+2)‘ *4=+3 3‘ @3‘ :2 ‘ : 45‘ +3‘ 52 E‘ ':‘ =3‘ 299753‘ +2 ‘ +3‘ *75@3 ‘ 4:‘ 53*‘)';'*<‘ =+4‘ +2;3‘ /456)3 3?‘ +3' ‘ :4 (B:': +‘ (32 ‘ 2*?‘ 2 3‘ 7*?3 ‘ 9'A (B4*3‘ 2547* 9‘ 4‘)399‘ +2*‘ 2‘ +' ? Y +2 ‘ 4:‘ 2)‘ =+4‘ +2;3‘ 629 ‘ +3' ‘ :4 (:': +‘ (32 ‘ 4*)(‘ 4‘ 2@47 ‘ +2):‘ 4:‘ +493‘)';'*<‘ @3 =33*‘ 93;3*C 33*‘ 2*?‘ :4 (B9'A$‘ '*‘ +3‘ =3* ,J'<+ ‘ (32 9‘ =+'/+‘ =3‘ 579 ‘ 2E3‘ 29‘ +3‘ 2/ 72)‘ 63 '4?‘ 4:‘ 5')' 2 (‘ 93 ;'/3‘ '*‘ +9‘ :'3)?‘ 2*?‘ 4:‘ +3‘ /4 3964*?'*<‘ : 2*/+'93‘ 3 3‘ 2<2'*‘ =3‘ :'*?‘ 2‘ *753 '/2)‘ 6 464 '4*' =+'/+‘ 52E39‘ ' ‘)'E3)(‘ +2 ‘ '*‘ +3‘ 9/+353‘ 4:‘ +3‘ /3* 7 '2K‘ /4*9 ' 7 '4*‘ +3‘ 2 '4‘ 4:‘ 4*3‘ 4‘ =4‘ =29‘ '*‘ 32)' (‘ 2E3*‘ 29‘ 2‘ @29'9 ‘ =+2 3;3 ‘)'5' ‘ =3‘ 52(‘ ? 2=‘ :4 ‘ +3‘ 2<3‘ 4:‘ +3‘ 93*'4 9

+3‘ *75@3 9‘ /4* 2'*3?‘ '*‘ +3‘ /3* 7 '39‘ 4:‘ ?'::3 3* ‘ /)29939‘ 579 ‘ +2;3‘ @33*‘ ;3 (‘ ?'::3 3* ‘ +3‘ 6 '*/'6)3‘ 4:B‘ +3' ‘ 4 '<'*2)‘ 2 2*<353* ‘ +29‘ 2) 32?(‘ @33*‘ 64'* 3?‘ 47 .\'$ *253)(‘ +3‘ 6 464 '4*‘ @3 =33*‘ +3‘ 2<< 3<2 3‘ 2A2@)3

A‘ 1‘ 1‘ 5‘ ‘ 2."@ ' - ‘ ‘ ‘ ‘

+K ‘ "*7‘ :1:2(1:‘ ', -‘ .1-2!"‘ 6.04‘ ',1‘ 87! -,‘ 5052!"' 08 ‘ .1'2.8-‘ 06‘ ',1‘ *1".‘ ‘ ,1‘ .1!"' @1‘ 824)1.-‘ 60. ',1‘ 4"!1-/ "((2 ‘ 6('1!*‘ 1;5.1-'3‘ ".1/ 6.04‘ B‘ 'O‘ / NN B3‘ 6.04‘ ‘ 'O‘ N / 3‘ ")0@1‘ N / 3‘ 0.‘ ',1‘ '0'"!‘ ")0@1A‘ / N ‘ "!(2!"' 87‘ 6.04‘ ',1‘ (!0-1‘ 06‘ ',1‘ 6 6'118',‘ *1".‘ / ',1‘ 5.050.' 08‘ +02!:‘)1‘ ',"‘ 06‘ N N ‘ 'O‘ B‘ 11‘ 5‘

6 463 (!4:' 32/+' /)29:' 2*?' +2 ' 4:' +3' =+4)3' @4?(' + 33' 63 94*9' 4:' +^B:' 9 ' /)299 ' :47 ' 4:' +3' 93/4*?' 9'A' 4:' +3' +' ?' =3);3' 4:' +3' :45. +' :47 ' 2*?' =3* (' 4:' +3' :': ''' 9 44?' 4*' 2')3;3)' 2E'*<' 2*' 2;3 2<3' '*' 64'* ' 4:' :4 7*3$ 2*?' /4*93R73*)(' '*' +3' ' ;4 39 ' +3 3:4 3' +3' *75C @3 9' '*' +3' /3* 7 '39' 4:' +3')4=3 ' /)29939' 579 ' +2;3' '*B' / 329 ' 2 ' +3' 9253' 2 3 ' +3' 93/4*?' +' ?' 2*?' :47 +' /)29939' 579 ' 32/+' +2;3' 649939 ' 6 463 (' 2547* '*<' 4' 2' :47 +' 4:' +3' 2<< 3<2 3' :4 7*3' 4:' +3' :' 9 $ +3' :': +' 4' + 33' 3'<+ +9'C :4 ' 3)93' ' ' =47)?' *4 ' +2;3' +2?' +' (' /3* B' 7 '39' //4 ?'*<)(' +3' *75@3 ' 4:' /' 'H3*9' '*' +3' 93/4*?' /)299' /253' 4' 2' +' ?' +2 ' '*' +3' +' ?' 4' +2)J' 4:' +493' '*' +3' :' 9 '$ +2 ' '*' +3' :47 +' =29' 3R72)' 4' ' '$ +2 ' '*' +3' :': +' + '/3' 29' < 32 ' (' +3' 6 '*/'6)3' 4:' +'9' ?';'C 9'4*' 47 ' 4:' +' (B:';3' /' 'H3*9' 9'A' @3)4*<3?J' 4' +3' :' 9 ' /)299 ' =3* (B*'*3' 4' +3' 4 +3 ' :47 ' 4 34;3 ' ':' +3' ,7*'4 9' 4:' +3' :' 9 ' /)299' +2?'*4 ' 2/ 72))(' @33*' 2@47 ' X ' +3 3' =29' *4' 3294*' 4' 52E3' :4 (' /3* 7 '39' 4:' +35'C +3' '*/4*;3*'3*/3' 4:' 94')2 <3' 2' *75@3 ' :4 ' ;4 5<' /2**4 ' +2;3' 39/263?' y +3')3<'9)2 4 ' :' +3' 93*'4 9' 4:' +3' 9253' /)299' =3 3' 2E3*' 4' @3' +2):' +3' ,7*'4 9 ' +3' *75@3 9' ,79 ' 93 ' ?4=*' /253' 47 ' '*' +4792*?9'P<';'*<' m ' :4 ' +3' :' 9 ' /)299 ' ' :4 ' +3' =+4)3' :';3. IJI ' ''9' 975 ' *4' =2(' ?'92< 339' =' +' +3' 4*3' 3/4 ?3?' 29' +3' 397) ' 4:' +3' :' 9 ' /3*979 ' Xk ' $ 2' *75@3 ' =+'/+ +4=3;3 ' +29' *4' @3 3 ' /)2'5' 4' 6299' :4 ' +'9 4 '/2) ' +2*' +3' 9 2 353* 9' '*' +3' %29 '' 4:' +3' ?2(9' 4*' =+'/+' E'*<

, -' "8(18" 8241. ("!' 5.050.' 08' 4"*' @1.*' 5.0) ")!*' (08'" 8' ',1' .1"-08' +,*/ +,18' "' (18'2.*/ "-' (1.0' -"*-' $5.0' !"8(0/ ' S F##/ +"-' 08!*' "' 5"." 06' "' '.)1/ ',1' 824)1.' 06' '.)1-' +"-' ." -1:' '0' I2-' "6 @1' "8:' ', .'*/ "8:' 80' , 7,1.

Y' 08*- 2-/ @ ' ' ,1' 0:' ', 02-"8:-' ".1' +"8' 87' 8' @*/ +,1.1' +1'6 8:' ',1' .028:' 824)1.' 3' :02)'!1--' 08!*' ', .027,' ',1' ("!1!1--81--' 06' ',1' 51.-08' '0' +,04' +1' 0+1' 02.' .1@ - 08' 06' ',1' '1;6" 0.' 2'.05 2-/ +,0' '"D1-' 1@1.*', 87' 6.04' @*/ -51"D-' 06' ' S ' B#/ ,1' -'"'1418" 06' ',1' (18-2-' 6028:' 8' -041' 4"82-(. 5'-' 06' ',1' 15 '041' 06' @*' -' "8' 8'1.50!"' 08

3 ;'79 '756+ % 45 2)) 26632 2*/3 9453 /2)/7)2C
'4*' 2?26 3?' 4' +3' 2@4;353* '4*3?' 6 464 '4*')'39' 2 '
+3' @4 45' 4:' +'9' *75@3 C ' '/3 2'*)(' =29' *4 ' +' ' 764*'
2 ' 2*?45C @7 ' +3 3' '9')')3' /+2*/3' 4:' 47 ' @3'*<' 2@)3'
@(' 2*(' /45@'*2 '4*' 4' ?';'*3' +3' *75@3 9' 299753?' :4 '
+3' E*'<+ 9' 2*? :4 ' +3' /3* 7 '39' *4 ' '*/)7?3?' '*' +3'
/)29939' % 45' +3' ;3 (' :' 9 ' +3' *75@3 9' '*' +3' /)29939'
/2*' +2;3' 2::4 ?3?' *4 +'*<' 54 3' +2'0J' 2*' 266 4A'52 '4*'
4' +3' 4@,3/ ' 2'53?' 2 ' 4:' 36 393* '*<' +3' 2A2@)3' 6 4C
63 (' *' 6 4/399' 4:' '53' 2*?' 29' +3' *45'*2)' ;2)73' 4:'
+'*<9' 2) 3 3?' +3(' 579 ' +2;3' ?362 3?' 94!' :2 ' : 45' 2*('
97/+' 3)2 '4*' +2 ' 29' '9' +3' :2 3Z: 4:' 2))' 9'5')2 ' :4 59'
+'9' 44' @3/253' R7' 3' 7*:' ' :4 ' 793' 2*?' 7*532*'*<
' 93/4*?' ?';'9'4*' 4:' +3' /3* 7 '39' =29' '* 4' +3' +'
' 4 ' ' 2*?')'3')' +3' :4 53 ' 579 '
+2;3' '*/)7?3?' +3' / 2: 953*' 2 2/+ ' 4' +3' :' 9 ' 2*?' :': +'
/)299 ' +3' *253' 4:' 299'?73 9' +4=3;3 ' =29' <';3*' 4' 2))'
=+493' :4 7*3' /253' 4' ' 2939! I 0 1 2*?' 76=2 ?C 94'
+2 ' +3(' 2)94' /456 '93?' 2))' @3 =33*' +'9')'5' ' 2*?' +3'
:': +' /)299C 2*?' 9'*/3' 4*' 6 399'*<Q353 <3*/'39' +3' 6 4)3C
2 '2*9' =3 3' /2))3?' 47 ' 2*?' 3R7'6 ' =' +' 2 59' 2 ' +3' 67@C
)'/' 3A63*93 ' ' 6)2'*)(' :4))4=9' +2 ' +393' 299'?73 9 ' +47<+'
/456 3+3*?3?' '*' *4' /)299 ' /2*' 9 ')')399' +2;3' @33*' 3AC
356 3?' : 45' 5')' 2'!(' 93 ;'/3C *4 ' /2*' +3(' +2;3' @33*'>
=' +47 ' +3' '<+ ' 4:' ;4 '*<' '*' =+'/+' +3' 6 4)3 2 '2*9' 2*?'
+3' ' 62 44E' +3(' 579 ' ?47@)399' +2;3' @33*'
+3' ' =+4 ' ';(' 92(9 ' ;4 3?')'E3' +3' 579'/'2*9' =' +'
+3' :': +' /)299C 4 ' 54 3' /4 3/)(' 9632E'*<' 29' =3' *4='
E*4=' : 45' '/3 4 ' +3(' :4 53?' =4' /3* 7 '39' +3' '
2*?' $ ' =+'/+' =3 3' 6 4@2@)(' ?'9 '*<7'9+ ' : 45' 32/+'
4 +3 ' @(' +3' ' /3*979' 29' =3))' 29' '*' 4 +3 ' 3963/ 9$' 94'
+2+' +493' =47)?' 63 +269' @3' /2))3?' ' =+4' =3 3'
2 3?' 2 ' 54 3' $+2*' 92(' k ' 2939$ +493' $ ' =+493'
3 7 *' :3))' @3 =33*' +2 ' 975' 2*?' +3' 6 4)3 2 '2*9' '
+29' 2) 32?(' @33*' *4 '/3?' .29' 2' 63/7)'2 ' (' '*' 4)?' 2 '*

3963/'2))(' '*' 3/)'*'/2)' 2*?' 4::'/'2)' 6+ 2939' +2 ' +3' *2539' 4:' =4' 4@,3/ 9' =+'/+' =+3 +3 ' : 45' +3' ' /4* 29' 4 ' 2::'*' (' =3 3' +2@' 72))(' 3:3 3?' 4' 32/+' 4 +3 ' =3 3' /45C @'*3?' @(' 53 3' ,7A 2649' '4*' =' +47' 2*(' /4*,7*/ '4*$ 29' '$ ' ' ' ' ' b ' ' ,'& +79' ' '=29' +3' 6 2/ '/3' 4' 92(' 2*?' 4' = ' 3' '$ ' ' 2' 6 2/ '/3' :2;47 3?' @(' +3' ' @3'*<' 7*' 3?' 29' '9' /3 2'*' '*' +3' 4*3' @2 2)'4*' 4:' +3')' +3*' +3' @4?(' 4:' 393 ;3' *4')4*<3 ' :4))4=3?' +3' 9 2*?2 ?9' 29' ' ' +2?' ?4*3' 7*?3 ' +3' 4)?' 9(9 35'$ =+3*' +3' 4@)'<2 '4*' 4' 5')' 2 (' 93 ;'/3' 2*?' +3' 54?3' 4:' 2'9'*<')3;'39' +2?' @33*' 3*)''(B)(' 354?3)3?' 2: 3 ' 2' *3=' 6)2*$ 2*?' (3 ' /3* 7 '39' ' ' 2*?' $ ' +47<+' ?47@)399' /456493?' 4:' 63 94*9' 4:' 2' ;3 (' ?':':3 3* '94 ' =3 3' 9 ')' 97@9'9 '*< YPT@3'*<' 6 393 ;3?' ' ' 52(' @3' 9766493?' @3/2793' @(' +3' ' 72)' +3' @32?)39' =+4' 2 3*?3?' 764*' +3' 52<'9 2 39' 3;3*' =+3*' 4::3 '*< 92/ ':'/39' =3 3' 2+3*' : 45' 254*<9' +35'.I[Y $ +3' 792<3' 4:' 2*/'3* ' '539'=29' +3*' 94' 4 2))(':4 <4 3* ' +2 ' = ' 3 9' 964E3' 4:' 2*B ' $ ' ,79' 29' 4:')\ ' ' =+'/+' =47)?' +2;3' 4::?*?3?' 2 409' 32 9' 29' 2' < 499' 94)3C /'95 ' +3' ' 5')' 2 (' ?7 (' =29' +3')'<+ 39' '*' +3' =+4)3' 2 5('$ 9'*/3' +3(' :4))4=3?' +3')3<'4*' =' +47' 2*(' @79'C *399' 4' @7 +3*'G *4' =3 3' +3(' 52'!/+' '*' 4469' 2<2'*9' +3' 3*35('G @7' 4*3' @(' 4*3' +3(' :'))3?' 76' +3' <269' +2' =3 3' 52?3$' 2*?' +3(' 3/3';3?' 2 59' :4' +2' 67 6493T!!.

>' 11'55' F BB

#Z' I7@18' "'0' 8', -' ' 41' 08!*' D81+' ',14' "-' '#' "..Q/' :1' ' '@ ' '5'F '&

AA , -' -' ',1' "((028" 7 @18')*' "..Q/' 8' ',1'-"41'5!"(1/ 06'! 1' '#' "8:' ',1' 5"--"71' 920'1:' 6.04' , 4' 8' 08 2-/' :1' 0('' 8:"7 'S; #' 8' '@ ' ' -,1+-' ', "*' 8' ',1'-1('08' ' ,1' '.1"'1:' 06' ',1' ' ,1 .' :18' '*' "-' "*')0:*' 06' .1-1.@1' -' "!-0' .1(078 --1:')*' 1-'2-/' 8' ',1' 5 ' '@' - - '#' -0' -' ', "*' 06' ',1' ')0',' ',1.1/"8:' "7" 8'@' ' T ,1',1.' '! 1*' +1.1' .1"!!*' "!-0' ',1'-"41' + ',' ',1*t.18 0.2/"-' ,"-)118' "--1.'1:/' ', "*' -/ +,1',1.')0',' '071',1.' +1.1' 14)."(1:' 28:1.' ', "*' 8"41/"8:' +,1',1.' ',1 .')2- 81--' +"-' '0'-255!*' ',1'-0!: 1.-' 8')"''!1' + ',' ".4-' "8:' :. 8D/".1' 921-' 08-' '!1"@1' 28:1'1.4 81:' 1' +,0' .1I1('-' 4*' ,*50',1- -' ,"-

39'?39' +3(' 2/ 3?' 29' 4 ?3)'39' 4' +3' 4 /3 9' ?4=*' 4' +3' ?3/7 '0*' ' < 32 ' 52*(' 4:' +35' 579 ' +2;3' 3 7 *3?' +453' : 45' +3' 9+4 ' 452*' /2562'<*9' =' +47 ' +2;'*< 3;3 ' /453' 4' @)4=9 ' 2*?' : 3R73*)(' *4 ' =' +47 ' @44 (+')3' +393' +3)?' +3')4=39 ' 2*E' 254*< +3' 299'?73 9 ' +3' /2 63* 3 9' 4*' +3' 4 +3 ' +2*?' +2?' 2' 6)2/3' 2))4 3?'5 +35' @(' +3' 9'?3' 4:' +3' :' 9 ' /)299 ' '/3 4' 4*)(' <';39' +35' 4*3' /3* 7 (' G 2*?' ':' =3' =3 3' 3?7/3?' 4' +3' *3/39C 9' (' 4:' 2?46 '*< +3' 39 '54*(' 4:' +3' 549 ' 79 =4 +(' =' *399 ' ' 2 ')329 ' 9+47)?' *4 ' +39' 2 3' 2*' '*9 2* ' @3 =33*' +'5' 2*?' +3' =4' +'9 4 '2*9 ' 4=3;3 ' +3 3' 2<2'*' 2' 97 3' 2/3' '9' 2::4 ?3?' 79' @(' +3' 3)2 '4*' 254*< +3' *75@3 9 ' 9+2)' 9632E')4=3 ' ?4=*' 4:' +3' /45' '2' +3)?' '*' +3' /256.$ =+3 3' /4*93R73*)(' *4*3' @7 ' +3' ,7*'4 ' /3* 7C '39' 2*?' +3' :';3' 2 2/+ ' 4' +35 ' +3' # ' ' $ * ' ' 2*?' ' =3 3' 6 393* G '*' +393' *4' ?'9 '*/ '4*' =29' 52?3' @3 =33*' +3' ,7*'4 9' 2*?' +3' 93*'4 9 ' 2*(' 54 3' +2*' 254*< +3' E*'<+ 9 ' 4=' +3' ,7*'4 ' /3*C 7 '39' 2547* 3?' 4' 3'<+ (B:';3'$ 94' +2 ' 2)4*< =' +' +393' :';3' +3(' 52?3.' 76' + 33' '539' +' (' +3' *75@3 ' =+'/+' 7*9' + 47<+!' +3' 32)'39 ' '*9 ' 7 '4*9 ' +'9' 4@93 ;2 '4* ' /4*/3';3' ?3/'?39' +3' 52 3 'G 2*?' 2 ' +3' 9253' '53' =3' 52(' +3 3' /2 /+' 2' :7 +3 ' <)'5693' 4:' +3' 3294*' =+(' 3;3*' ':' +3' 3 7 *9' 4:' +3' /3*979' +2?' ?3;'2 3?' /4*9'?3 C 2@)(' : 45' +3' 2@4;353* '4*3?' 9/+353 ' +3' *75@3 ' 4:' /3* 7'39' '*' +3' /)29939' =47)?' 9 ')' +2;3' @33*' :'A ' 2 ' ,79 ' k

+3' 6 4)3 2 '2*9 ' '*' +3' 549 ' 6 3/'93' 93*93' 4:' +3' *253 ' 2//4 ?'*< 4' 3))'79. I ' =3 3' +493' =+4' <2;3' '*' +3' ' 6 463 (' 7*?3 ' ' 2939 ' 2*?' 2@4;3' k 'G 97/+' 29' /253' @3)4=' +'9' 52 E' 2*?' +493' =+4' +2?' *4 +'*< 2 ' 2))

'0' -,1+' 8' +,"*' +"*' ',0-1' "-- :21.-/ +,0' -'00:')1!0+' ',1' ' 6')' (!"--/ -1.@1:' "8:' @0'1:'3 "8:' 6.04' +,"*' 0',1.')0:*' ',1' o ' +,0' 8' ',1' 1".! 1.' 60.4' 06' ',1' !17 08' 4":1' 25' ', .'*' 4"8 5!1-/ ("8' ,"@1')118' '"D18 ' @*' '00' 418' 08-' ',14' "!087' + ',' ',1' 6 6', ' (!"-- ' "..Q/ 8' ',1' -"41' 5"--"71' 76' 08 2- >' 11' ',1' '1;"' '0' 80'1' FA' -0 ' '

=3 3' /2))3?' }' *'2' ='?3 ' 93*93' 2*?' 29' /4*C
29 3?' =' +' +3' 299'?73 9' @4 +' +393' ?';'9'4*9' =3 3' /45C
6 '93?' 7*?3 ' +3' *253' 4:' 6 4)3 2 '2*9' +2 ' +3(' :4 53?'
=4' /3* 7 '39' +3' 6 4)3 2 '2*9' 2*?' +3' ' =3'
9+47)?' :'*?' 3A6 399)(' 9 2 3?' '*B '/3 4' @7 ' +2 ' +3.')32:'
4:' +3' 52*79/ '6 ' /4* 2'*'*<' +3' 352'*?3 ' 4:' +'9' 2/C
/47* ' 4:' +3' /3* 7 '39' =+'/+' @ 32E9' 4:' =' +' +3' =4 ?'
' +29' @33*')49 QZJ' ' @3<2*' @3(4*?' 2))' ?47@'
=' +' +3' =4 ?9' ' [' '/3 4' 3/E4*3?' \m' /3*C
7 '39' :4 ' +3')29 ' :4'7G /)29939' 2*?' +3' 9'A' 4??' /3* 7 '39'
2 2/+ ' 4' +3 5G =+'/+' *75@3 ' '9' 52?3' 76' ':' 2: 3 ' +3'
' $ ' ' ' =3' 6)2/3' =4' 54 3$ 4'
=' ' +3' ' 2*?' +3' ' +79' +3 3' =47)?'

B ; I/1' - ;'!/ !1"6'06' ,1' 1 7,'118',' 92"'1.8 08

U' 1" 80)0:*' 721--' ', "" " +"-' ',1' 2 ' 'W ' 'H' +, (,'
+"-' 45.051.!*' '1.41:' "' (18'2.*/ "8:' +"-' 08!*' ("%1:' 8'0' 1; -'18(1'
+,18' "' 51.-08' -'"'1:' ', "" ,1' ,":' 817!1('1:' '0' @0'1' 8' , -' 0+8

U' (1.0' ,"-' 2860!:1:' ',1' +,0!1' -*-'14' 06' , -' (08-' '2' 08' + ','
": 4 .")!1' -D !!/ "" ', 1' @1.*' ' 41' ', "" ,1' :1(! 81-' U@ 87' "' :.*' ! -" 06'
',1' (!"--1-ℓ 780."8" -(.)1-' 8:11:/ "8:' ', "" 2860.'28"'1' -1" 06'
)00D (0..1('0.-/ +,0' +" '1:' 8' ',1' '." 8' 06' ',1')00D-1!!1.-' 06' "8' G
92 '*/ "8:' +! 0/ "-' ',1*' 1@18')0"-" 8' ',1' :1(!"."' 08-' "' ', 1' 18:' 06'
6,1 .' 4"82-(. 5'-/ 45.0@1:' ',14' 60.' -"!1/ ' ' ' '
' 6028:' , 4' 28 8'1!! 7)!1'? "8:' ',2-' ', .027,' (".1!1--' '."8G
-(. 5' 08/ "8:' -'25 :' "8:' ."-,' "!'1."' 08-/ : :' ', "" , :102-' (0..25' 08'
". -1')*' +, (,' ',1' 5"--"71' -/ : -6 72.1:' ' ,"@1' ',1' -"41' (!1".' "8:'
(08-(18' 02-' (08@ (' 08' ', "" ',1' .1-'0."' 08' ' ,"@1' -1" 60.',' 8'
"50',1.' 5!"(1' -' (0..1('/ "-' ' ,"@1' 06' ',1' '.2',' 06' 4*' , -'0. ("!' 5.0G
50-' 08-' S ,1' 1418:"' 08-' -2771-'1:')*' ',1' "2',0.' 8' " J-' 1: G
' 08' +1.1' "6'1.+".:' .1(08- :1.1:')*' , 4' 8' "' '."(" P ' 'n :'
' ' ' G ' ' G ' ' sB '8 3' G ' ' '
' "8:' 8' "' (08'.0@1.- "!' P3' ' 0 ' 3 ,' H1.G
,"5-' 0',1.-' + !" 611!' 80' !1--' (1.'" 8/ 6' ',1*' ("8')2" (!1".!*' -11' ',1'
+"*' 8' +, (,' ',1' (0..25' 08' +"-' 5.0:2(1:' ," "' 51.-08' 80"
6"4 ! ".' + ',' 4"82-(. 5'-/ "8:' 1-51("!!*' + ',' @1.*'0!:' 081-/ ,0+1@1.'
6.11' ,1' 4"*')1' 6.04' 5.1I2: (1/ 0.' ,0+1@1.' ("5")!1' 06' 5.08028(87' "8'
05 8 08' 08' (. ' ("!' 921-' 08-/ + !" -' !!' 6 8:' " : 6 (2!" '0' 18'1.' 8'0'
',1' 60!!0+ 87' :1-(. 5' 08/ 4"*'1"- !*')1' -2550-1:'?)2" ', -' :16 (18(*'
:01-' 80" 7 @1' , 4' "' , 7,1.' ' '!1' '0' 5"--' I2:7141 8'' ' ,1' (!1+' '0'
',1' !")*. 8',/ "-' 42-")1' 1@ :18" 08' "' ("8: :' (08- :1."' 08' 06' ',1

@3' \ ' '*' +3' =+4)3$' 2' *75@3 ' =+'/+' '9' /4*:' 53?' @(' 2*4 +3 ' 3)2 '4* ' %4 ' 29' +3' \ ' /3* 7 '39' :4 53?' @(' +3' E*'<+ 9' 2*?' +3' :' 9 ' /)299' =3 3' 93 ' '*' 46649' '4*' 4' 2))' +3' 39 ' 94' 29' 4' 47 ;4 3' +35 ' ' ' '9' *2 7 2)' +2 ')'3(' 9+47)?' 2547* ' 4' ,79 ' +2):' +3' 975' 4 2)' 2*?' 4*3' 54 3G' 2*?' 97/+' '9' +3' /293 ' ':' +3')3993 ' +2):' /4*9'9 3?' 4:' +3' :47 ')4=3 ' /)29939 ' +3' 9'A'5/3* 7 '39' ,79 ' 53* '4*3?' 2*?' +3' /2 63* 3 9$' '*' 2))' \k ' +3' /2 63* 3 9 ' +47<+' 9 2C '4*3?' 2)4*<9'?3' 4:' +3' :' 9 ' /)299 ' =3 3' (3 ' 39 2*<3?' @(' +3' ' *2 7 3' : 45' +3' 2 '9 4/ 2/(' 4:' @' +' 2*?' =32) +

5"--"71' 8' '-' : -0. : 1./ -' % -? (1.0' : @ : 1:' "!!' ', 1' (18'2. 1-' 8'0' '+0' 4 "--1-? 081' (08'" 81:' ', 1' 6 .-' (!"--' "8:' ', 1' (".518'1.-' "'''" (, '' '0' '3' ', 1!0' , 1.' "!!' ', 1' .1-'/ ', 1' D8 7, UU' "8:' ', 1' FN (18'2. 1-' 8: ' , 18' , 1' -"*-? 6'6.04' "4087' ', 1' !"'' 1.' ', 1' D8 7, '-' "!081'I0 81:' ', 1' 60. 41./ ', 1' FN (18'2. 1-/ 1@18' 6'', 1*' D15'' 8-15".")!*' '071', 1./ +1.1' 02'@0'1 :

, 1' '1 I'' 8' '-' -028:' -'"'1' ."8' ', 2-? n ' ' ' ' ' ' W' ' ' ' W ' ' ' ' ' ' 1 ' ' ' ' ' 666 ' ' . 'W ' "." ' (; @' :' ' ' ' W ' ' W ' ' ' $' 11 ' 1 ' ' ' ' 8' "' 5"--"71' 06' ', -' D 8:' "' .1" : 1.' + !!' (04G 408!*' 70' 0@1.' ', 1' ("!(2!"' 083' "8:' ', 2-/ -041' 081' , "@ 87' + . ''18' 08' ', 1' - :1' ' ' ' ', 1' 824)1.' 06' ', 0' (18'2. 1-' 8' ', 1' 1921-'. "8' 0. : 1./ ', 1' +0. : -' (.15'' 8'0' ', 1' '1 ; '' 06' "' 4 "82-(. 5'3' -0' ', "' ', 1' (!"2-1' 80+' ." 8? W ' ' ' $' (11 ' ' ' ' ' '

0+' "' ! 81' 06' ', -' +"-' !16'' 02'' =' ', 1' +0. : -' W' ' ' ' 11' ;' =' ', 18' -255! 1:' 8' ', 1' 4 ".7 8/ "8:' :' ', 1' '." 8-(. 5"60 -'1:' 8'0' ', 1' +.087' 5!"(1/ < ' 3 ' H' -0' ', "' 80+' ', 1' 5"--"71' +"-' -, 11.' 808-18-1/ "8:' .1" :' "-' 60!!0+-? n ' ' ' ' ' ' W ' Q ' ' $' 11 ' ;' ' ' ' ' ' 1' ' ' ' 1 ' ' ' ' ; ; ; ' ' 'W' ' (; @ ' ' ' ' W ' ' ' ' ' Q '

1 ; '' ("41' "8' 780. "8'' 1418 : 1./ "8 :' 6"8(1:' '0' 52'' -18-1' 8'0' '' 02'' 06' , -' 0+8' ,1" : ' , 1' +0. : ' , ": ' .14 " 81:' 8' '-' 5!" (1' ? -008' "6'1. +" . :' ', 1' FN (18'2. 1-' ". 1' -50D18' 063 80+' "-' FN "8:' ' 4 "D1' / (; @' +"-' "!'1.1 :' 8'0' (@ ' 8' ', 1' -"41' +"*' ; ' +"-' -'.2(D' 02'' 62.G ', 1.')" (D' "6'1.' 11 ')1("2-1' '' : :' 80'' 7 @1' "' -, ":0+' 06' 41"8G 87' -' '0' ', 1' ` ; ; ; @ 8 /' '' ".0-1' 6.04' -041' .1" : 1.J-' ": : 87' 25' ', 1' -"41' @ ' + ', ' ', 1' 666 ' E

' 08-19218'!*' (1.0' 4 7, '' (1.'" 8!*' , "@1' 1 ; 5.1-'' , 4-1!6

+3' 6 4)3 2 '2*9' 2*?' ' =3 3' *4 ' 4*)(' '*:3 '4 ' 4' +3' ' : 45' +3' '*9'<*':'/2*/3' 4:' +3' ' 9+2 3' '*' +3' '<+ ' 4:' ;4 '*<' @7 ' 4' 2))' +3' 299'?73 9' '*' +3' ' /';')' /262/' (' 2*?' 39 '52 '4*' ' '9' 2*' 4@9/7 3' R739 '4*' +4=' 4*3' /' 'H3*' =29' 2' $ ' :4 ' 2*4 +3 6 *4*3' +4=3;3 ' @7 ' 2*' 299'?73 ' /47)?' @3' 94' :4 ' +'9' :3))4=' .6' 2*?' +3' 6+ 293' ' ' ?354*9 2 39' +2 ' 3;3*' '*' <';'*<' 3;'0 ?3*/3' +3 3' =29' 2' ?'9 '*/ '4*' +75')'2 '*<' 4' +3' 644 .IJ.' +3 3' 97/+' =29' +3' /293 ' ' '9' '56499'@)3' 4' 9766493' +2 ' +3' 6 4)3 2 '2*9' =3 3' 3)'<'@)3' 4' 6)3@3'2*' 4:) /39' 7 ' 4' 52E3' 253*?9' :4 ' +'9' +3(' =3 3' 3A356 3?' : 45' 2A39J..

+3 +3 ' +3' :';3' /)29939' =3 3' =+4))(' 4*' 2')3;3)' 29' 4' +3' ' 3)'<'@')' (' 4' 4::'/39' '9' 2' 64'* ' 4*' =+'/+' *4 +'*<' '9' E*4=*' +2 ' '9' 92'?' /4*/3 *'*<' +3' ' @3'*<' 36 30 93* 3?' @(' +3' '@7*39' =+3*' +3' *75@3 ' 4:' +393' =29' 2'93?' 4' :';3B:B' 9335 9' /3 2'*6' 2*?' +3 3:4 3' 6 4@2@)(' 32/+' 93;3 2))(' 3)3/ 3?' ' 9' ?367 (' 2*?' 47 ' 4:' ' 9' 4=*' '@4?(' '

+3' 9759' 2 ' =+'/+' +3' 6)3@3'2*9' 2*?' 3 2 '2*9' 9 2*?' 2 3?' '*' +3' /3*979' =3 3' *4 ' +3' 2547* ' 4:' +3' ' :4 0 7*3' 2: 3 ' 47 ' *4 '4*9' =+'/+' 2//47* ' 3;3 (' 947 /3' 4:' '*/453' /262@)3' 4:' 2*9:3 ' @(' '*+3 ' 2*/3' 4 ' 2)'3*2 '4*' 2' 62 ' 4:' +3' /26' 2)$' @7 ' 4*)(' +2 ' 4:' 97/+' 6 463 (' 29

42(,' 40.1' - 45!*' ','8' ,1' :01-' 8' ',1' 5"--"71' 1;5!" 81:' 8' ',1' !"-" 80'1'3 6' 8' .1"' 87' 06' ', -' 0)-0!1'1' 4 "''1.' ,1' ,":' .1(0,1('1:' ', "' ',1' (".518'1.-')1!0871:' 8' ."8#(' 0' ',1' 2551.' ,"!6/ 8' (,"."('1.' '0' ',1' !0+1.' , -' -' '" 62.',1.' 5.006' ', "' ',1.1' ("8' ,"@1')118' 08!*' 081' (18'2.*' 06' ',14'? U :' -0' 1"(,' 06' ',1' 0',1.' - ;')1!0871:' '0' '" 5".' ("A' !".' (!"--' 06' 5105!1

A' C1!! 2-/ ' /6.04' ',1' '+1!@1' '")!1-' ? -- :20' @ 8:1;' "-- ' :22-' 1-'0' ? 5.0!1'". 0' 920' 92 -' @0!1" @ 8:1;' 1-'0

,"' ' "8:' ' +1.1' 192 @"!18'/ +1' !1".8' 6.04' (1.0/ :1' 1' 5' 8 ' C1!! 2-' '00' -"*-' ? -- :22-' 8' :20:1(4' '")2! -' 5.0' !0(25!1'0' 1' 6"(!1' 6"(18' ' : ('2-

P' ,1' 1'* 40!07*' 60.' ',1' 8" 41' 06' ',1' 0550- '1' (!"--/ ',1' ' ' ' 6.04' ',1 .')1 87' ! ")!1' '0')1' '";'/ -' 1@ :18'!*'. 7,'

' ' 11' 80'1' N

+3(' +3)?' '*' 2@94)7 3' 4=*3 9+'6$' 63 +26 9' 4' +3' 3A/)7C 9'4*' 4:' 52*(' E'*?9' 3;3*' 4:' +'9' ' +2;3' 9'7?' +3' 6)3C @3'2*9' 2*?' 3 2 '2*9C @3/2793' ' ' /2*' +2 ?)(',@3' 9766493?' +2 ' +3' 62 '/'2*9' 4 '<'*2))(' <2;3' '*' 2*(' 3 7 *' 4:' +3' ' :4 7*3' 2*?' 62'?' 2' 2A' 4*' ' G' +3' /3*979' :75'9+ ' *4' 53297 3' :4 ' +3' ' =32) +' %4 ' +3' 39 2 39' '*' +3' 67@)'/' ?452'*9' =+'/+' +3(' 649939' 2*?' 3*,4(3?' +3' 797: 7/' 4 ' 52?3' < 2* 9' 4:' 2*95' '*<' +3' 9253' 6499399'4*' 2*?' '<+ ' 4:' 52E'*<' 97/+' <'.2* 9' @(' '*+3 ' 2*/3' 7*?3 ' 2' 3C 93 ;2 '4*' 4:' +3' 94;3 2'*0' ')3' 4' 39753' +3')2*?9' 2*?' 4' ?'96493' 4:' +35' 4 +3 ='93' /2**4 ' +2;3' @33*' 3 7 *3?' @(' +35' 29' 6 463 (' +3(' =3 3' 4*)(' 2' 6499399'4*' :4 ' 2' '53' +3' 3:'*353* 9' @(' =+'/+' 54?3 *' *2 '4*9' 3AC 2/ ' 2' 62 '2)' ;2)73' 4' @3' /4*9'?3 3?' 29' 2@94)7 3' 6 4C 63 (0I..' : 45' 2')':3B'* 3 39 ' =3 3' 7*+32 ?' 4:' 254*<' +3' 2*/'3* 9' 9' 4' +3' 63 94*9')'2@)3' 4' 2A2 '4*' ' ' '9' /)32 ' +2 ' 2))' +493' +'*<9' =+'/+' 29' 4@,3/ 9' 4:' w7' ' 2 (' 6 4C 63 (' =3 3' '*' +3' 9 '/ 39' 93*93' /2))3?' ' .J Y' 97/+' 29' @ 299' /4'*' +47939' 62 /3)9' 4:')2*?' +3' '<+ 9' 2 2/+' 4' +35' @7')?'*<9' 2*?' '56)353* 9' 4*' +35' 9)2;39' @329 9' 4:' @7 +3*' 2*?' ? 27<+ ' 2*?' +4 939 Y B=3 3' /45C 6 3+3*?3?' '*' +3' /3*979' 7 ' +'9' 9 2 353* ' 4:' +3',7 '9 9' =29' 6 4@2@)(' 57/+' 44' /4*:'*3?' :4 ' +3' 32)(' 2<39' 3;3*' 29' 2')'9 ' 4:' 97/+' +'*<9' 29' @3)4*<3?' 4' +2 ' 62 '/7)2 ' E'*?' 4:' 6 463 (' %)4/E9' 4:' 952))3 ' /2)3' 2663 2'*3?' 4' +79@2*? (' ,79' 29' 57/+' 29' @329 9' 4:' ? 27<+ ' 2*?' @7 +3*C *4 ' =47)?' +3' 2*9:3 ' 4:' 6 463 (' '*' +35' @3' 2 3*?3?' =' +' :3=3 ' :4 52)' '39$ 2) +47<+' ' ' =29' *4 ' =4 +' P+3 47@)3' 4' 356)4(' +3' @2)2*/3' 2*?' 4' /2))' =' *39939' :4 ' +3' 92)3' 4:' 2' 9'*<)3' <42 ' 4 ' 9+336 ' 2'*9' 6 4*47*/39' 9');3 ' 2*?' <4)?' 4' @3' ' ' & (3 '%2@ '/'79' 2*?' 7:'*79' <2;3' '*' 2' 3 7 *' 4:' +3' ' = 47<+ ' 9');3 ' 4' +3

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63/7)'2 9 75@)'*<B@)4/E '* 3;3 (' 2 356 4 52E3 47 +3 *2 7 3 4: +3 /3*979)'39 '* +3 *75@3 9 35C 6)4(3? 29 53297 39 4: 6 463 ($ =+'/+ 947*? 94 3*4 C 5479 * 2* 3A6)2*2 '4* 4: +3 '*9 ' 7 '4*9 =+'/+ 2 3 +2*?3? ?4=* 29 +3 2/ 9 4: 3 ;'79 7))'79 +'9 ?'::'/7) (' 579 9453=+3 3 4 4 +3 @3 3)7/'?2 3?$ 54 3 3963/'2))(

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=29 2 352 E2@)3 2*? ;3 (' 9'*<7)2 ' 63/7)'2 ' (' 4:' +3 *2 '4*g '*' +3 5'??)3 4:' 2)(' 4 356)4(' /4663 ' '*' +32;(' 529939 :4 +3' ' /7 3*/(' *4 9');3 G =+3 329 +3 947 +3 *' 6 4;'*/39 2*? +3 /429 29 :2 29 2562*'2 +47<+' +3 543?3 4:' /4567 '*< @(' 47*/39 =29 *4 7*C E*4=*' 3;3*' '*' '/')(' 52?3 793 4:' 9');3 B54*3(' +2 +3 79/2*9 5@ '2*9 2*? 9453 4:' +3 2@3))'2*' '@39 /4'*3? /4663 ' 'g 6 4;3? @(' +3 '*9/ '6 '4*g 4*' 963/'C 53*g +2 352'*G 2g 4 +3 2 '*g 2*? 25*' 39 *4 97/+ 6'3/39 4:' +3' ' 54*3(' =' +' '*9/ '6 '4*g +2;3 @33*

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: '*9 32? 4: 54*3(6 463)(94 /2))3? =+'/+ '9 4*)(2 53297 3 4: ;2)73 9453 /45542?' (4 4 +3 =+'/+ 29 97/+ '9 2* 4@,3/ 4: ?352*?' @3 356)4(3?' 4*3 4: +3 ?'92?;2* 2<39 *3/3992 ')(/4**3/ 3?' =' + ' ' '9 +3 '*/4*C ;3*'3* ' 9'H3 4: +3 6'3/39 . 7/+ '9 +3 /293 =' + +3 /)4 +2*?' 4/E92) ' '*: @(99'*'2 =' + +3 /4/42' '*: 3A'/4$ 2*?' 97/+ ' ' =29 =' + +3 @ 299 '*: 2*/'3* ' 2)(+3 @ 299 ' 92(G :4 ' ' ' '9 4*)(:4 ' +3 92E3 4: 2;4'?'*< 9'*C <7)2 ' (4: 3A6 399'4* ' =+3** ' ' /2** @3 2;4'?3?' +2 ' ':4)C)4=' 4 +3 9 '*' <';'*< +3 *253 4 ./4663 B54*3(4 =+2 '*' 32)' (=29 @ 4*H3$ /4663 ' 52?3 54 3 :79'@)3 @(2*' 2?5'A 7 3 4: '*.!' 4 ' H'* ' 4=' ;3 (<3*3 2) +3 793 4: +'9 53 2)' =29 '9 6 4;3?' @(+3 2 547 ' 4: +3 3 ;'2*')3<'4*G 2*?' +3 3 /2* @3 *4 R739 '4*' +2 ' 2)) +3 @3 3 ' +4793+4)?' 7 3*9')9 =3 3 4: +3 9253 523 '2) +79 @ 299 =29 2 +'*< 4: ?2')(*33?$ 2*?' +3 529939 4: ' ' =3 3 94 329')(2*9:4 53?' @(:79'4* ' +2 ' *4)499 =29 '*/7 3?' @(+2 ' 6 4/399G 2 ' +3 9253 '53 +3 '56 399 764** ' ' 92;3?' +3 47@)3 4: =3'<+'*< 4 +'*< @7 ' 2 ;3 (')) '53?' 3/4))3/ '4** 4: 47 ' 4=*' /79 459 =' + 3C <2 ?' 4 54*3(' +29 <';3** '93 4 +3 ' *4 '4** +2 ' +3 R72? 2*<7)2 ' 4 ' 4;2)' 6'3/39 =3 3 *4 ' 54*3(',79 B29 57/+ 29 +3 47*?G '*' +'9 52**3 ' ' 52(@3 63 :3/)(=3)) 3A6)2'*3?' +4=' 6'3/39 =3 3 /4'*3?' 4: 9 ')' < 32 3 ' =3'<+ ' +2*' 2*' 29 ' 76 4 2 ' ;3** '*')2 3 '539 ' 63 +269 '*' +493 4: '52379 ' +3 '<7 '2*9 ' 644 ' 29 +3(=3 3 ' +2?' 9+'3)?9 4: @ 299 .. ' +'9 <3*3 2)' 793 '56)'39 ' 9 2@C 7*?2*/3 2*?' /+326*399 ' 4 @3 356)4(3?' :4 ' +3 2 547 ' 4: 2)' +3 +46)' 39 ' @ 299 579 ' +2;3 @33*' 6 4/7 2@)3 2

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11 5 N / 80'1 F . .80!:/ ',1 -(,0!". +,0 8'.0:2(1: ',1 6 .- 1: ' 08 06 ', - ', -'0.*' '0 ',1 87! -, 52)!) *' "' 6. 18:!*' .1@ 1+/ ,"- ("!!1: 4*' "''18' 08 '0 "8 05 8 08 06 T 1.81.J-/ = 06 +, (, '" C1. 4"8 027, " 80" '0 ,"@1)118 .14 8:1:)*' "' 60.1 81./ =', "" (05G 51./ +, (, 06 "!! 41'"!- - ',1 06'181- " 6028: 52.1 8 ',1 0.1/ 60. ', - .1"-08 5.0)")!*' +"- ',1 6 .- +.027, ' 1 62.',1. .14 ".D-/ 8 -25G 50." 06 ',1@ 1+ 8 +, (, " 7 @1- 41 5!1"-2.1 '0 6 8: , 4 (08(2.. 87/ ', " ',1 "--"71'1- "((0.: 87 '0 1.0:0'2- S ![# ,": 08!*')."--/ 80 .08 11 "!-0 1- 0:/ [

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4:' +'9' E'*?' =29' :2 ' 9763 '4 ' '*' ;2)73' 4' +3.'9');3 ' 2 3*'
'*' +3' 9253' =2 ' +3 +3 ' 2 ' +3' '53' =+3*' +3' /3*979'
=29' '* 4?7/3?' +3' 29' =29' 9 '))':7))' =3'<+ ' 4 ' +2?' 2) 32?('
+33*')4=3 3?' '9' @3(4*?' 47 ' E*4=)3?<3' +79' 57/+'
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47 ' =29',79 ':'3?' '*' 29975'*<' +2 ' +3' 4)?' 29' =29' 4:' +3'
9253' ;2)73' 3)2 ';3)(' 4' 9');3 ' =' +' +3' 29' 3?7/3?' 4'
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' '9' 2' < 499' 5'9 2E3' '*')'*(Y 2*?' 4*3' R7' 3' 7*C
62 ?4*2@)3' 9'*/3' +3' 579' 2' +4792*?' '539' +2;3' 93g*'
6'3/39' 4:' 54*3(' =+'/+' 62)62@)(' 3:7 3?' +'9' 3 37 'Y' 4'
3<2 ?' +3' :' 9' 3?7/ '4*' 4:' +3' 29' =+'/+' +3' :47*?' 3C
/4 ?3?' '*' +3' **2)9' 29' +3' :' 9' 2/ 72))(' 52?3' ;3*'
2' +3' 6 393*' ?2(' 3;3 (' /4))3/ '4*' 4:' 6'3/39'4:' +32;('
/4663 B54*3(' /4* 2'*9' +3' 6)2'*39' 3;'?3*/3' +2' +3'
=3'<+' =29' 4*)(')4=3 3?' 4' =4' 47*/39' B@(' ?3< 339 I J'
+3' '93' '*' +3' 6 '/3' 4:' /4663' '9' 2 '@7 2@)3' 4' +3'
9253' /27939' =+'/+' 3*+2*/3' ' 9' ;2)73' =+3*' +3' /7 3*/('
'9' '*' 2' *4@)3' 53 2)$' 4' +3' ?3/ 3293' '*' +3' 6 4?7/3' 4:'
+3' 5'*39' 2*?' +3' '*/ 3293T' '*' +3' /4*97 56 '4*' 2*?' 3AC
64 2 '4*' +3' ?'5'*7 '4*' 4:' +3' =3'<+' 52(' +2;3' @3C
<7*';3 (' 32)(' :' +3' /4'*' +4=g;3 ' =+'/+' '5 c79' +3)?'
4' @3' +3' 4)?39' 3:3 3?' 29' ' +2;3' 97<<39 3?' 4' +3'
39 2@)'9+53'' ' 4:' 2' ?3 3 5'*2 3' 975' :4' 57)/ 9' 2' +3

A' @*/ L' N

! ' ?' "-' "551".-' 6.04' ',1' 8-(. 5' 08' 08' ',1' (0!248/

+' '' +02!:' ',.0+' ! 7,'' 08' ',1' , -'0.*' 06' ',1' "."-/ 6' * 1' 4G
5.1--1-' 08' ',1' "-1-' "8:' ',1' !1--1.' (0 8-' +1.1' 1;"4 81:/ 8' (0881; 08'
+ ',' ',1' 7.":2"!' : 4 82' 08' 8' ',1 .' +1 7,'3 60.' ',1*' 1;,)'' ',1'
T0.D4"8-, 5' 06' ',1' "." -'-' 8' '' .172!"." -1. 1-' :2. 87' 40.1' ',"8' '+0'
(18'2. 1-' ,1' 40-'' .1(18'' 4"*',"@1' 60!!0+1:' "8(18'' 40:1!-? 8'
',1' 0!:1-'' +1' -11' +,'' ',1' '' .'' +"-' "!.1":*' ")!1' '0' 1661('

'53 4: +2 5 3297 3 ' =29 9 '): :47 ' '539 29 +32; (29 2: 3 B ' ' +2? @33*)4=3 3?' * +3 :' 9 ' 7*'/ =2 ' 4= 29. +3B/4*97)9 7)'79 2*?' 26' '79 ;2)73?' 2 9+336 2 ' 3* 2939 ' 94 2 ' +3*9 ' =+3 3 +3 /7 3*/(=29 9'); 3 ' ' =29 2 3?' @(+3)2=9 4:' 4)4* 2 ' 2 ? 2/+5' 2* 4A ' =+'/+ +3 452*)2= 39 '52 3?' 2 ' 2 +7*? 3?' 2939 ' 2 ' +3*9 =29 *)(=4 +:';3 ? 2/+59 ' '9 6 4@2@)3 +2 ' @3 =33* +3 '53 4:' 4)4* 2*?' +3 3)464**39'2* =2 ' +3 3 +2?' @33* 2 <3*3 2) '93 4:' 6 '/39 + 47<+ 33/3 2*?' 2)($ 2*?' 2* 4A 2 ' 453 44 2@47 ' +3 (32 ' m ' 52(6 4@2C @)(+2;3 94)?' :4 ' *4 54 3 +2* :': (2939 ' 25 4*)(2'5'*< 4 9+3= +2 ' 4:' +3 +32; (2939 ' *4)399 +2* 4: +3)'<+ 3 ' 3* 52(4* +3 2;3 2<3 @3 2E3* :4 ' 3R7';2C)3* ' 4 2 ? 2/+5 ' * +'9 64'* ' +3 6 '/39 4:' /45 ' 2 3 ?^/'9';3 6 ':' +3 ?'5'*7 '4* '* +3 =3'<+ ' 4:' +3 29 +2?')3993*3?' ' 9 ;2)73 29 54*3(' +3 3 579 ' +2;3 @33* 2 *45'*2)' */ 3293 '* +3 6 '/3 4:'/45

+'9 =29 3<2 ?3?' 29 9'*<7)2)( )4= 2@47 ' +3 (32 ' X ' =+3* /45 ' :3)) 4 2* 29 2 54?'?9 7 ' 2* 3R72))( )4= 6 '/3 =29 3/4 ?3?' @(+3 /+ 4*'/)39 '* +3 (32 ' X ' =+3* +3 29 *4)4*<3 ' =3'<+3?' 54 3 +2* =4 47*/39 .\6 2*?' 2 +7*? 3?' (32 9)2 3 ' =+3* /4663 B/4'*9 ' +2;'*< @33* 3?7/3?' 4 2 =3): +' 4:' +3' ' 4 '<'*2) =3'<+ ' =3 3 53 3)(793?' :4 ' 2 952))' /7 3*/(' 2*?' 2))' 6 '/39 =3 3 2 3?' '* 9');3 ' =+32 ' 4: 3* 94)?' '* '92)6'*3 27)' :4 ' *4 54 3 +2* =4)'<+ ' 2939 I ' * +3 4 +3 ' +2*?' 2: 3 ' +3 ?'/ 2 4 9+'6 4:' ())2 +3 5@?'79 '* '/')(94)?' :4 ' =4 4 ' 9453 '539 + 33 939 3 /39 ' +2 ' '9 ' : 45 ' 4

3))'79 ' 1 ' ' #353 '79 +2)3 379 ' R74 3?')*)7 2 /+' U!08/ ('

H! 8*/ L ' ' -' ', -' +"- 8 ', 1 6 .-" H28 (+"./ '"!* 42-" "" ', "* ' 41 , "@1)118 "((2-'041:' '0' 1;50." (04/ "8:'+"-' ', 18 -2661. 87 6.04 '" 7!2" 0+ 87 '0' ', 1 -'055"71

H0!*) 2-/ 8 ' ' 1 -"-./ ', 1 (! "8 41: 82 2- 06'18 -0!:' 60.' '0)0!-/ 0.' '+0 '! .:-'06"* :."(, 4 ? ', 1 :18".* "!.1": * (08- -'1:' 06 N "-1-' 0.7,1- ' , "- (045!1'1!* 5.0@1:' ', "* ', 1 !"-" : 4 82' 08 06 ', 1 "- : :' 80" '"D1 5!"(1 ' !! ', 1 ' 41 06 *!!"

' ?36 3/'2 3?' 2939' =4' 4' +3' 47*/3' 6 2*?' +393' =3 3' /79 452 (' 6 '/39' '*' 2*' 2<3' =+3*' +3' 54*3(B;2)73' 4:' 3;3 (C +'*<' +2?' '93*' 4' 93;3 2)' '539' ' 9' 2*/'3* ' 2 ,47* '$ =+')3' +3' :4 53 ' =29' 94' 3A 353)(')4=' 29' 4' @3' 3/4 ?3?' '*' +3' /+ 4*'/)39' T 4=' +2?' *4 ' +3' 6 '/3' 4:' @ 299' @33*' /4* '*72))(' '9'*<' 94' +2 ' +3' =3'<+ B4:' ' ' =+'/+' /4 3C 964*?3?' '*' ;2)73' 4' 2' :'A ' R72* ' (' 4:' +3' 7*';3 92)' /5BB 3*/(' 9');3 ' =29' /4*9 2*)(' ?'5'*'9+'*<' +3' 6 '/3' =+'/+' + 33' /3* 7 '39' 2*?' 2' +2):' @3:4 3' =29' ?3353?' 7*7972))(')4=' 579 ' +2;3' @33*' ='/3' 4 ' + '/3' 29' +'<+' 29' +3' 2@4;3B.' 53* '4*3?' /4*7*4*' 52 E3 6 '/39

+3' 53297 3' 4:' ?3 3 '4 2 '*<' +3' /4'*2<3' '*' +3' 52*C *3 ' 7972)' 254*<' @2 @2 47' *2 '4*9' 2*?' '*' 2<39' 4:' '<*4C 2*/3' '9' 549)(' 2?46 3?' 4' 93 ;3' ;3 (' < 499' 2*?' 3;3*' 6 4:)'<2 3' 3*?9' 3;3 +3)399' +3 3' 52(' @3' 2' 9 2 3' 4:' +'*<9' '*' =+'/+' ' ' '9' ='93' 2*?' 3;3*' *3/3992 (' 4' 2E3' 2')4=3 ' 9 2*?2 ?' + 47<+' 2' *2 '4*09' 4=*' :27) ' ' 9' 4=*' 952))3 ' /7 3*/(' 4 ' + 47<+' /' /759 2*/39' =+'/+' /47)?' *4 ' @3' :4 39 2))3?')'<+ 3 ' 54*3(' : 45' 2@ 42?' 52(' +2;3' @3'@53' 6 3?45'*2* ' 94' 29' 4' ? ';3' +3' +32;'3 ' 47 ' 4:' /' /7)2 '4*' +3' 2 356 '*<' 4' 39 4 3' ' ' =3 3' 4' 9='5' 2<5*9' +3' 9 325 ' 2*?' /2*' 4*)(' @ 33?' 5'9/+'3:' 2*?' ?'9C < 2/3' :' 2' 9 2 3' +29' :2))3*' '* 4' +3' 7*:4 7*2 3' 9(9 35' 4:' 6263 B54*3(' 2*?' +'9' 9'*E9' '*' /4562 '94*' =' +' 9');3 ' +3*' 9+47)?' 2' ,7*/ 7 3' 4:' :2;4 2@)3' /' /759 2*/39' :7 C *'9+' +3' 532*9' 4:' 339 2@)'9+'*<' 2' 53 2))'/' /7 3*/(' ' ' '9' 2) 4<3 +3 ' 2@97 ?' *2(' 67 3)(' ?'929 479' 4' 52E3' +3' 53 2)' 39753' ' 9' 6)2/3' =' +' ' 9' 9 2*?2 ?' 7*/+2*<3?' 94' +2 ' +3' 9759' '*' 2))' /4* 2/ 9' 2 3' 4' 2@'?3' @(' +3' ' *4C 5'*2)' 2547* ' =+')3' ' ' '9' '56499'@)3' 4' E336' 76' 6 '/39' 2 ' +3' +'<+ +' =+3 3' +3(' 9 44?' ?7 '*<' +3' 6263 ' /' /7C)2 '4* I . ' 2(' 'J' 3;3*' =' +47 ' 6263 B54*3(' 2))' 6 '/39

(1.0' "7" 8-' 1..1-/ ' 4 /' B

Y' 8' ', -' +"*' ', 1' -'"'1' ,"-' '0' 5"*' "' 6 (' ' 02-' :1)" ? + ,1.1"-' 06' '-1!6' 1@1.*' 628:1:' -*-'14/ 6' 5.0!0871:' + ',02" "' .1:2(' 08/ 6 .-").11:-' "' ,1. :' 06'!"_*' "8:' 780."8" 628: ,0!:1.-/ "8:' 06')177".-/ "8:' "6'1.' "!!' 18:-' 8' "')"8D.25'(*/ 08!*' '00' !"'1

+2;3 :4 2 /47 93 4: (32 9 @33* :4 /3? 76 @(2* 3A 2C 4 ?'*2 (9 2 3 4: +'*<9 :2 2@4;3 +3 532* 4: +493 =+'/+ 6 3;2')3? ?'0A'*< +3 6 3/3?'*< <3*3 2 '4*9$ ': +3 3AC 63*939 2*? @7 +3*9 4: +3 /47* (+2;3 '*/ 329 2 +3 9253 2 3$ 2*? 2)3*< + +'9 :3;3 '9+ /4*?' '4* 97@9'?39 2*? 3;3 (+'*< ? 469 ?4=* :4 2 /4* '*72*/3 4 +3)4=39 2;3 2<3 6 '/39$ '* 97/+ 2 /293 +3 4*)(+463 4: 92:3 ( )'39 '* 2 6 464 '4*2 3 3?7/ '4* 4: +3 9 2*?2 ? 4 +'9 397) /4554* 93*93)3? 53* '* :4 53 '539 =+3 329 > +34 (2*? ?3)79'6* *4=/ (47 2<2'*9 ' 453 +3 3A'<3*/(=29 9 ')) 54 3 6 3995< 9 '* +3 5'??)3 2<39 : 45 +3 /4*9 2* 2*? 7* 36)2/3? 3::)7A 4: 54*3(4=2 ? +3 29 9');3 @3/253 9/2 /3 2*? 9/2 /3 4* +3 *4 +4: +3)69 2*? 2)) 6 '/39 E36 4* 6 4< 399';3)(:2))'*<$ 94 2 453 29 =3 +2;3 933* /4663 < 2?72))(< 3= ?32 3 '* /4562 '94* =' +T 9');3 2*? /4*93R73*)(=' +2))4 +3 /45 54?' '39 2*? +'9 2) +47<+ 453 +2? *4 *2 '4*2) ?3@ 2*? +3 /' 'H3*9 *4 +3 3?' 2 (54 <2<39 579 +2;3 6 4?7/3? 3A 353 +2 ?9+'6T e5 ? ?'9 399 '* 2@7*?2*/3 4: '*9 2*/39 +3 62(4:)'3 +4 9353* *? :44 94)?'3 9 9 44? :'A 2 2 2 9 2 3? *75@3 4: 2939G 2*? +47<+ +3 /47* (52* *4= 3/3';3? :3=3 2939 :4 +'9 / 46 +3 +2? 4 62(+3 9253 975 29 ':B54*3(=3 3 *4 =4 +54 3 +2* @3:4 3 +'9 4: ' 93): =47)? 93)3 +3 R739 '4* ' +47 ?47@ +4=3;3 +3 '539 =+3* 3C ?7/ '4*9 =3 3$ 394);3? 764* =3 3 /+'3:)(+493 =+3* +3 9 2 3 =29 ?39' 479 4: 3)';'*< +3 ?3@ 4 9G 2*? +'9C 4 (6 393* 9 94 52*(97/+ 4//29'4*9 +2 +3 3 '9 97 3)(

8 ',1 *1".- 6.04 B /'0 B (0.8 8 87!"8: -0!: 60. ")02" ',.11 6 6',- 06 ',1 5. (1 ", ": -'00: "" *1".- 1".! 1.? 8 ."8(1 ',1 5. (1- "" ',1 '+0 150(,- +1.1 804 8"!!* 192"!3)1("2-1 ',1 -'"8:".: ,":)118 "!'1.1: 8 ',1 5.050.' 08 06 'Rt 25G 50- 87 80+ ', "" ',1 !"8:1: 5.051.'* 8 ',1 '+0 (028'. 1- ," ":)118 7181."!!*).', 181: + ', 40.'7"71-/ ',02-"8:-/ +,0 8 ',1 60.41. 42- ," ,"@1)118 .2 81:/ +02!: ,"@1)118 -"@1: 8 ',1 !"''1.3 "8: '! "" 80 08!* "4087 ',1 5.05 1'0.-/ +,0 +02!: ,"@1 .1' 81: ',1 . 8,1. '"8(1/)2 1@18 "4087 ',1 40.'7"711-

< 47*?' :4 ' @3)'3;'*<' =3' 52(' ?'9/4;3 ' =' +' 4)3 2@)3' 2/BB /7 2/(' =+3*' +493' 6 4< 399';3' ?'5'*7 '4*9' '*' +3' =3'<+ ' 4:' +3' 29 ' =+'/+' +3' /4))3/ '4*9' 3A+'@' ' 44E',?2/3

: 3 ' 453' 2/R7' 3?' +3' ?45'*'4*' 4;3 ' 2562*'2' 2*?' +3' 947 +' 4:' 2)(' =+3 3' 9');3 ' =29' '*' <3*3 2)' /' /7)2 '4* ' 54 3' /456)3A' /27939' =3 3' 2 ' =4 E' +3' ' +39' 2*?' :2 53?' ?7 '39' =47)?' /453' '*' : 45' +3*/3' '*' 9');3 G' +3' 9');3 ' /4'*3?' '*' +3' 47 +' =' +' +3' 9763 9/ '6 '4*' 4:' 453' 7*?47@ 3?)(' /' /7)2 3?' =' +'*' +3' /' (' ' 93):$' 2 ')3*< +' ?3*2 '39' =3 3' '9973?' 29' +3' *2 '4*2)' 54*3(' 4=' ':' '*' ?4'*<' +'9' 2' :2)93' 6 464 '4*' =29' 2997537$ ':' 2' S'3B ' 4:' +' (' 47*/39' '*' =3'<+ Y 4*' =+'/+' 9/2)3 ' 29' +3' *75@3 ' 4:' 6'3/39' :47*?' '*:3 ' +3' /4'*2<3' 579 ' +2;3' 9 44?' 9 ')' :4 ' 9453' '53 ' 2) +47<+' :4 ' 2' 57/+' 9+4 3 ' +2*' 4*' +2 ' 4:' :47 ' 47*/39' 4' +3' 2901I. Y '=29' =4 +' 54 3' +2*' 2' ?3*2 ($' +'*<9' 579 ' +2;3' <4*3' 4*' 29' +3(' ?4' *4=' =+3*' ' ' '9' 2 356 3?' 4' E336' <4)?' 2*?' 9');3 ' '*' /' /7)2C '4*' @39'?3' 32/+' 4 +3 ' '*' :'A ' 2*?' :2)93' 6 464 '4*9'G +3' 53 2)' =+'/+' '9' ';' 3?' 44')4=' R7' 9' +3' /47* (' ' ?'C 3/ ' 6 44:' +2 ' 97/+' =29' +3' /293' =' +' +3' 2)'2*' /4663 B' 54*3(' '9' 9766)'3?' @(' +3' '5 53*93)(')2 <3' 975' =+'/+' #7')'79' @ 47<+ ' 47 ' 4:' '/')(' 2) +47<+' +3' /7 3*/(' +3 3' =29' +2 ' 4:' +3' 33E9 ' 9');3 ' 2*?' <4)?'G 94' +2 ' +3' /4663 ' 579 ' +2;3' @33*' '* 4?7/3?' @(' 2::'/$' '*' 3A/+2*<3' :4 ' 9');3 ' 4=' ':' @ 299' < 3=' ?32 3 ' '*' /4*93R73*/3' 4:' +3' 7*'/' =2 ' @3/2793' +3' '564 2 '4*' 4:' (6 '2*' /4663 ' 2*?' 4:' '*' =29' 9 46 ' +^' 367@)'/' +2?' *4' 54 3' /+4'/3' =+3 +3 ' 9+3' =47)?')4=3 ' +3 ' 2939' 4' +3' =3'<+ ' 4:' 2' 93A 2* ' 4 ' *4 ' +2*' % 2*/3' +2?' :4 (' (32 9' 2<4' 2@47 ' 2) 3 '*<' +3 ' <4)?' /4'*2<3 ' :' 97/+' 2' 53297 3' +2?' *4

PKA 1.1' -2.1!*' ' 4"*' -"*' + ',' (086 :18(1/ 1@1.' - 8(1' ', 1' 1G (1-- 08' '0' ', 1' "8 (2!"8'3 ', "*' -/ :2. 87' ")02*' , .'*' *1".-

Y' ,"*' '."66 (D 87' 8' 4081*/ "8:' -51(2!"' 08-' 8' : 661.18*' -0.'-' 06' '/' +1.1')*' 80' 41"8-' 28D80+8' '0' ', 1' "8(18'-/ -' 5.0@1:')*' '" .1G 4".D")!1' 5"--"71' 8' L1805,08/ :1' 1(' 7"!)2-/ ' ' ,1' '' (' :."(, 4-' +1.1' 06'6 81' - !@1.'? "8:' L1805,08' +"-'@1.*' +1!' "+".1' ', "*' "' -'"'1' 5.040'1-' '-' 0+8' ": @"8'"71')*' (0 8 87'700:' 4081*

@33*' 2E3*' 2))' +3' 54*3(' 4:' +2 ' 53 2)' =47)?' +2;3' <4*3' 47 ' 4:' +3' /47* ($' 2*?' +3' 9 2 3' =47)?' +2;3')49 ' 29' 57/+' 29' ' 9' *45'*2)' ;2)73' =29' 44')4=' +3' '93' 4:' /4663 ' 9 '))' /4* '*73?$' 2*?' =4' 47*/39!=3 3' 9 '))' 44' +32;(G' @7 ' =+3*' +3' =3'<+' =29' 3?7/3?' 4' 4*3' +'9' =29' <4'*<' 44' :2 $' 2*?' ' '=29' *3/3992 (' 4' 52E3' +3' 939C 3 /3' 3R7';2)3*' 4' :47 '2939

' '9' 47 ' ?7 (' 4' '*;39 '<2 3' 2 3* ';3)(' '*' =+2 ' =2(' +3' 27 +4 9' + 47<+' =+45' =3' ?3 ';3' 47 ' E*4=)3?<3' 4:' 2*/'3* ' +'9 4 (' +2;3' @33*')3?' 4' +3' 5'97*?3 9 2*?'*<9' +3(' +2;3' :2))3*' '* 4$' 2*?' +79' 4' :'*?' 2*' 3A/793' :4 ' +3' ' 3 47 9' '*9 32?' 4:' 2@79'*<' +35 ' ! +'9 'B)'E3' 3;3 (' 2/ ' 4:' ?7 ':7)*399 ' +29' ' 9' 3=2 ?G' :4 ' +3' ?'9/4;3 (' 4:' +3' 964 ' =+3 3' +3(' 9 2(3?' : 45' +3' '<+' 42?' 39 2C @)'9+39' ' 9' /47 93')'*(' /4*:47*?3?' +3' 29' 356)4(3?' 4' 53297 3' +3' 2547*' 4:' +3' ' $' =' +' +3' :7))B' =3'<+ 3?' /4'*' +3' :4 53 ' =29' 394 3?' 4' : 45' *3C /399' ($' 9'*/3' /4663 B54*3(' =29' 793?' 94' :2 ' 2*?' ='?3 ' '*' 2))' ;2 '3 '39' 4:' 9'H3' ;3 (=+3 3' +3' =3'<+' =29' 3C ?7/3?$' 4='*<' 4' +3' 9253' /27939' 29' 2 ' 453$ @7 ,' '*29C 57/+' 29' ' ' =29' '*' 4=*9' =+4))(' '*?363*?3*' 4:' 32/+' 4 +3 ' +3' 3?7/ '4*9' =3 3' ?'::3 3*' '*' ?'::3 3*' 6)2/39'))' +393' 54*'39' =3 3' 4:' +3' 9253' 53 2)B$ *4 ' +2?' 2' 9 2 3' 2*(' 54 ';3' :4 ' :4 @'??'*<' 2*(' /4'*' @7 ' ' 9' 4=*' 4' /' /7)2 3' 9'*/3' 2' 93'<*4 2<3' =29' 2' +'*<' 7*E*4=*' 4' 2*C 'R7' (G' 2//4 ?'*<)(' 2' +7*? 3?' 647*?9' =+3 +3 ' '*' +3' *3=39' 452*' 54*3(' 4' '*' 5'A' 94 9' =3 3' 4:' +3' 9253' ;2)73' 4' @ '*<' +393' 4' 2' /4554*' 9 2*?2 ?' =29' +3' 3*?' 93 ;3?' @(' +3' 9/2)39' 793?' '*' 2')' @2 <2'*9G' +393' 29' =3))' 29' +3' =' *39939$ +2?' 2*' '564 2*' 67 6493' 2*?' =3 3' @(' *4' 532*9' 2' 6'3/3' 4:' 9(5@4)'/2)' ':)'*<' 2?' +3' 4)?' 647*?9' /4* '*73?' 7*?'5'*'9+' 2*?' *4' 4 +3 9' @33*' /'7 3* ' +3' 9/2)39' /47)?' *3;3 ' +2;3' @33*' +47<+

0'' 6 ' ', -' -' 40.h' ', ''8' '') ''.1' 50--) ! '*/ ''8:' ', '' ', 1' 7.1'' 'G 1-'' @''. 1'*' 06' 5 1(1-' +1.1' 8' (.(2!'' 08' '' ', 1' -'41' ' 41/ -' 5!'' 8' 6.04' ', 1' (0 8-' 06'18' 6028:' 8' '' - 87!1' ,1''5

+3 :';3 /)29939 =29 2)329 R7' 3 29 57/+ 4 2/3 +3 4@,3/ 4:' +3 92)3 :4 +3 /3*979 29 4 93/7 3 +3 6 46 '3 4 ! *3 933 9 +2 +393 3*2/ 53* 9 52?3 ' *3C /3992 ( )+2 2 <44?'?32) 9+47)?@3 = ' 3*6 :4 +'9 4 +2;3 @337 ?4*3 '* +3 93 ;'/3 4:' +3 9 2 3 '9 *4 2 ;2C '2*/3 =' + +3 9/2 /' (' 4:'@44E9

=29 @(' +3 6)3@9 +2 +3 3<7)2 2A 2//4 ?'*< 4 +3 /3*979 =29 62'?6 ' 9 ;3 (' *253' =29 ?3?7/3?' : 45 +3 # 4:' +'9 4 ?3 ' =29 2*'5649 ;2 ('*< =' + +3 3A'<3*/'39 4:' +3 9 2 3 3<7)2 3?' @(' +3 +47C 92*?9 4:'2 52*09 /26' 2)'* +3 /3*979$ @7 *4 '2 6 463 (B 2A 2*(='93 /4 3964*?'*< 4 +3 '*/453 4:' +3 '@7 2 (' /)2996 :4 +3 9 4 '39 2@47 +3 6)3@3'2*'?3@ 4 9 6)2'*)(' 9+3=' +2 ?3@ 9 =3 3 *4 ?3?7/ 3?' '* +3 ;2)72 '4*' 4:' 2 52*09 :4 7*3 . =29 2 ?' 3/ 2A 764*' 4@,3/ 9 =' +47 2*(' 3<2 ?' 4 +3' 6 4?7/3)'E3 2)2*?' 2*?' +4793B 2A6 '*?33?' +'9 :4 53?' +3 52'*' 62 4:' $ '*/)7?3?' +4=3;3 '* +3 <3*3 2) 3 7 *' 4:' +3 /3*979!J I +2 579 +2;3 52?3 ' 63/7)'2)(' 466 399';3 =29 ' 9 ;2 '2@)3*399 :! ?'?' *4 3A 3*?' @3)4=' +3 299'?73 9 6 +3 6 4)3 2 '2*9 53 3)(' 52?3 2 3 7 *' 4:' =+2 +3(' +2?' +3 *4 '4*' 4:' +3' B 62('*<

.'" "..Q/ :1 ' @ N' 5' F @*' .1@1.-1-' ', -/ -'* 87/ :' # ' ,1''";' +"-' !1@ 1:' "((0.: 87 '0' ',1' '.)1-'3 08*- 2-/ @ '3)*' ',1''.)28 '"1.". '3 "..Q/ @ ' N

>' 11' ',1''1;'' '0' 80'1' B

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>' 11'80'1' ' >

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√ 11'80'1' F /

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□ □

4?6' '9 97:) /'3*)(' 2@97 ?' 3;3*' =+3*' +3 532*'*<' '9' +2' +3 9 2 3 =29 *4' 4 3/3';3 54 3 : 45' 2*(' /' 'H3*' +2*' +3 644 39' /47)?' 2::4 ?C @7' ' ' '9 2*' 2)549' 7*62C 2))3)3?' 3A256)3 4:' +47<+)399*399 :4' 2*(' 4*3 4 +2;3 93' ?4=*' '*' = ' '*<' +2' 2 R7'*'79 +3 (2*' 3;'/ 3?' 2 64)) 2A4:' 3*' ? 2/+59 2+32?' 3 3 2<2'*' +4=3;3' =3 +2;3 2 2?' '4*' =+'/+' 47<+' *4' 4 @3 6 3,7?'/3?' @(' ' 9 947*?'*< 94' 2 '4*2)' '*' +3 547 +' 4:' +3 364 3' #'4*(9'79 /4*:47*?9 +3 62(3' =' +' +3 363';3 ' ' 9+2))' 9+3=' +3 32: 3' +2' 2 +7*? 3?' 2939 =3 3 +3 54* +)(' 62(' 4:' 2 :44 B94)?'3 .C :4' +3 6 393*' ' =')' 3A6 399 5(' /4*,3/ 7 3' +2' +'9 62(' +3 ' ' :4' =+'/+' +3 94)?'3' +2?' '*')'E3 52**3' 2*' '5 53?'2 3 '<+' 4:' ?'9 2'*'*<' =29 4 '<'*2))(' 2 /+2 <3 4*' +3 3 2 '2*9' 29 +3 :7*?9 :4' E*'<+ 9 +4 939 =3 3 4*' ='?4=9 2*?' '*:2* 9C 94 +2' +3 '/+' +2?' 4 62(' 93;3 2)$ =+')3 4:' +3 644 3' 94 ' 93;3 2)' =3 3 /)7@@3?' 4<3 +3' :4' +3'97664 ' 4:' 2 9'*<)3 94)?'3 ' 25' /4*;'*/3?' +2' +3 ;3 (' *253 4:' +3 ' /253 : 45' +'9 ' ' 2*?' +2' +3 /+2*<3' =+'/+' '9 36 393* 3?' 29 +3 '* 4?7/ '4*' 4:' 62(' /4*C 9'9 3?' '6' ' 9 @3'*< *4)4*<3' /4*:'*3?' 29 ' ' +2?' 6 3C ;'479)(' @33*' 4 +3 3A'9 '*< *75@3' 4:' 63*9'4*9 /+2 <3C 2@)3 764*' +3 3 2 '2*9$ @7' 94 3A 3*?3?' +2' 3;3 (' 94)C ?'3' 3/3';3?' +'9 9+2 3$ +2' *4=' +4=3;3' +3 6)3@3'2*9 2)94' 2)4*<' =' +' +3 3A/)79';3 4@)'<2 '4*' 4 93 ;3 '*' +3 :44' =3 3)'E3='93 52?3 7*';3 92))(' 2*?' 3<7)2)(')'2@)3 4 '@7 3 :4' 62('*< +3 2 5(' *?' +'9 =29 +3 ;'3=' 4:' +493 2**2)'9 9' 54 3 2//7 2 3)(' 2/R72'* 3?' =' +' 2*C /'3*' '539' =+45' ';(' :4))4=9' =+3*' +3 3)2 39 +4=' +3 '@7*39 4:' +3 6346)3 57 57 3?' +2' +3 '@7 3 =29 4*)(')3;'3?' :4' +3 92E3 4:' 5*'*< +3 6)3@9 B:B 4

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L' 11' @0!' ' 6' F' 6' 11' 80'1' F 3

/2*‘ +3‘ 53297 3‘ '567 3?‘ 4‘ 2 R7'*'79‘ @3‘ 7*?3 9 44?‘ '*‘ 2*(‘ 4 +3 ‘ =2(

! 9‘ 4‘ +3‘ 62 '/'2*9‘ 4*3‘ /2**4‘ 9766493‘ +2 ‘ +3(‘ =3 g‘ 2A ‘)'E3‘ +3‘ 3 2 '2*9‘ +2 ‘ @3:3))‘ 25 ‘ d 5 ')'79‘ =29‘ 2*‘ 2 @' 2 (‘ '5649' '4* ‘ +3‘ 4 +3 ‘ 2*E9‘ 5 '<+ ‘ @3‘ 92 '9:'3? ‘ ':‘ +3‘ 62 '/'2*9‘ 62'?‘ 4*‘ +3‘ 9253‘ :44 '*<‘ =' +‘ +3‘ 6)3@3'2*9‘ :4 ‘ 6 463 (‘ 4:‘ +3‘ 9253‘ E'*?$ =+')3‘ :4 ‘ +3‘ *2 '4*2)‘)2*?9‘ '*‘ +3' ‘ 4//762 '4*‘ +3(‘ /4* '@7 3?‘ 9453‘ 2?3R72 3‘ 64 '4*‘ 4:‘ +3‘ 6 4:' 9! l l . ‘ '2 ‘ +'9‘ =29‘ +3‘ /293‘ 7*?3 ‘ +3‘ E'*<9J‘ '9‘ 6 4@2@)3‘ 3;3*‘ : 45‘ +3‘ < 32 ‘ 67@)'/‘ =4 E9‘ +3‘ 532*9‘ :4 ‘ 3A3/7 '*<‘ =+'/+‘ =3 3‘ 9766)'3?‘ 2//4 ?'*<‘ 4‘ +3‘ 452*‘ /79 45' @(‘ +3‘ # ‘ ‘ +2 ‘ '9 ‘ 62)(‘ @(‘ +3‘ 6 4?7/3‘ : 45‘ +3‘ 92)3‘ 4:‘ @44 ($ 62)(‘ @(‘ +3‘ 6 4:' 9‘ 4:‘ +3‘ /4*R73 3?‘)2*?9‘ 4 ‘ +3‘ 3* /+2 <3‘ 4*‘ '*?';'?72)9‘ :4 ‘ +3‘ 797: 7/ ‘ 2))4=3?‘ 4‘ +35 ‘ *‘ 2: 3 '539‘ +3‘ 62 '/'2*9‘ <4 ‘ '?‘ 4:‘ +'9‘ /+2 <3‘ 2*?‘ +3*/3 ‘ 94‘)4*<‘ 29‘ +3(‘ =3 3‘ 94)3‘ 7)3 9 ‘ *4‘ @7')?'*<‘ =4 +‘ 53* '4*‘ =29‘ 3 3/ 3?l l

+3‘ 9253‘)2=‘ @(‘ =+'/+‘ +3‘ 6)3@3'2*9‘ =3 3‘ 3A/)7C 9';3)(‘ @47*?‘ 2*?‘ /2))3?‘ 47 ‘ 4‘ 93 ;3‘ '*‘ +3‘ '*:2* (‘ 2*?‘ =+'/+‘ 3<7)2 3?‘ +3‘ 2 547 ‘ 3;3 (‘ /)299‘ =29‘ 4‘ =32 ‘ =47)?‘ 4:‘ /47 93‘ :4 @'?‘ +3‘ 3 2 '2*9‘ 4‘ 6 4/7 3‘ +3593);39‘ 2‘ 97' ‘ 4:‘ 2 547 ‘ ;3*‘ 254*<‘ +3‘ 6)3@3'2*9‘ 4*)(‘ +3‘ + 33‘ 7663 ‘ /)2993‘ =3 3‘ +32;(B2 53?‘ C 5 ?‘ 9'*/3‘ 3;3 (‘ 4*3‘ +2?‘ 4‘ 3R7'6‘ +'593):‘ 2 ‘ +'9‘ 4=*‘ /49 ‘ +3‘ 644 3 ‘ 2@4;3‘ 2))‘ +3‘ 6 4)3 2 '2*9‘ +2?‘ *4 ‘ +3‘ 532*9‘ 4:‘ 6 4;'?'*<‘ +3‘ 2 59‘ 2*?‘ 2 547 ‘ =' +47 ‘ =+'/+‘ +3(‘ =3 3‘ *4‘ 52 /+‘ :4 ‘ +3' ‘ '/+3 ‘ @ 4 +3 ‘ 6)3@3'2*9‘ *?‘ +47<+‘ '*‘ +493‘ 3A 2C 4 ?'*2 (‘ /2939‘ =+3 3‘ /';'/‘)3<'4*9‘ =3 3‘ 2'93?‘ 2*?‘ 3;3*‘ +3‘ 2 '92*9‘ =3 3‘ 3*)'9 3?‘ 2*?‘ =+3 3‘ +3‘ 6 4)3 2 '2*9‘ =3 3

,1‘ 5"*418“ 06‘ 08‘ 5.06 '-‘ "4087‘ ',1‘ 04"8-‘ +"-‘ “‘ :1G (- @1‘ 5.006‘ ', "‘ ,1‘ +,0‘ 4":1‘ ‘ +"“ 08!*‘ “ 2-26.2('2".* ‘ ,1‘ C.11D‘ 80' 08-‘ 08‘ ', -‘ 50 8“ +1.1‘ : 661.18'? "4087‘ ',14‘ H - -'."'2-‘ "‘ ',1‘ ' 41‘ +1‘ ".1‘ -51"D 87‘ 06/ 1.0‘ ', .11‘ (18'2. 1-‘ !"'1./ 1;"('1:‘ “‘ ' ',1‘ "-‘ “ 5.051.'* '";‘ 6.04‘ ',1‘ !"8: ,0!:1.-

‘ ,1‘ '2881!‘ 6.04‘ ',1‘ !)"8‘ !"D1‘ +"-‘ “ +0.D‘ 18I0 81:‘)* 81(1-- '*

2 53?' @(' +3' 9 2 3' *3/399' (' 6 4?7/3?' /+2*<39' '*' +'9' 3963/ ' +3(' /3 2'*)(' ?'?' *4 ' 47)29 ' +3' 4//29'4*

% 45' @3' ;3 (')2 <3' *75@3 ' 4:' +3' /3* 7 '39' '*! +3' :' 9 ' /)299 ' #'4*(9'79' 44E' ' ' '* 4' +'9' +32? Y 2*?' +3' +29' @ 47<+ ' 4;3 ' 2))' +3' 54?35 9' 4' +'9' 46'*'4* Y ' +2 ' 2 ' 2))' 3;3* 9' ':' +2?' 4' 62(' ;3 (' ?32)(' :4 ' ' 9' 9763 '4 ' (' '*' 2*E' 2*?' =3'<+ $' @3/2793' ' ' =29' '*/3992*)(' 7*?3 ' 2 59 ' 2*?' +2 ' 44' '*' 2' :2 ' < 32 3 ' 6 464 '4*' +2*' +3' 39 ' 52E'*<' 76' *32)(' +2):' +3' =+4)3')3<'4* ' 4=' +47<+' ' ' 9' 73' +3' 32)(' =2 9' =3 3' *4 ' ;3 (' @)44?(' 2*(' 54 3' 94' +2*' +493' 4:' +3' 33E9' =3 3' 7972))(' @3:4 3' +3(' 44E' 2*' 3* ' 3)(' *3=' /+2 2/ 3 ' =' +' +3' '/')'2*' 3A63?' '4*$ 9 '))' 97/+' 29' +3(' =3 3 ' +3(' 579 ' 9633?')(' +2;3')3?' 4' 2' 53 3' 54@B<4;3 253* ' ':' +3' :)4=3 ' 4:' +3' 3963/ 2@)3' /' 'H3*9' +2?' +79' @33*' 2@2*?4*3?' (32 ' 2: 3 ' (32 ' 4' ?3C 9 7/ '4*' 3' 579 ' *4 ' 2))4=' 47 93);39' 4' '567 3' 2*' '*9 ' 7 '4*' 4:' +'9' *2 7 3' 4' +3' 452*')2=<';3 ' ' '9' =4 +' =+')3' +4=3;3 ' 4' 9+3=' @(' 4 +3 ' 2 <753* 9' +2*' 54 2)' 4*39 ' =+'/+' @(' 52*(' 2 3')')3' +33?3?' +4=' :2 ' +3' 46'*'4*' 4:' #'4*(9'79' '9' : 45' +3' 7 +

+3' 6+2)2*A ' =+'/+' =29' +3' @2)3B2' 2(' 4:' +3' 2*/'3* ' 33E9 ' 2*?' =+'/+' +')'6' 53 3)(' 2?26 3?' 4' +3' 63/7)'2 ' /+2 2/ 3 ' 4:' +'9'Q97@,3/ 9' =29' +3' :4 5' '*' =+'/+' +3' 452*' J2 5'39' 2)94' =3 3' 4 '<'*2))(' ? 2=*' 76'\!' +3

F' '89: ' "(1:08 "8-')118')".)". "8-/ -'.087' 8')0:s\/ .2:1' 8' 28:1.-'"8: 873' ,":' "' 80"')118' (!1".' ', "'' 8' -2(,' "' 8"' 08' ',1.1' 42-"' 81@ '")!*')1' "' 7.1"'' !"(D' 06' 066 (1.-' 6 "' '0')1' '.2-'1:' + ',' 8:1518:18"' (04 4"8:-/' "8:' ,":' 80"' H, ! 5J-' :1-'.2(' @1' +".-' ("!!1:' 60.' 8(1--"8"' -255! 1-' 06' ."+' .1(.2 '-/ '0')1' 4":1' -1.@ (1")!1' + ',02"' :1!"*3' ', "'' 7.1"'' 5. 8(1' +02!:' "--2.1:!*' ,"@1' (,0-18' "' : 6G 61.18"' -*-'14' 06' '"(' (-' 2"' "-' "' +"-/ ,1' '2.81:' ', 1' 4":1' -1. "!-' ,1' ,":' "'', -' (04 4"8:/ '0' ', 1')1-"' 50--)!1' "((028'? "8:' ', -' +"-' "!!' ,1' +"8'1:3 - 8(1' ', 1' C.11D-/ +,0-1' "..":' +"-' ', 1' -"413 51.- -'1:' 8' ', "'' 451.61("' 60.4' 06' '/ ")0@1' +, (,' ,1' ,":' ." -1:' , 4-1!6

@*/ " ' ' !*51 -' "8'1"' 04 "8' 2-' -28'6 :1 8:1/ 50-' ' 92" 4' -' 518: ".*' 6"(' ' -28'/ -(2'"' 5.0' (!*51 -' 61(1.1/ 1"' 920:' "8'1"' 5,"!"871-' - 4 !1-' "(1:08 (-/ ,0(' 50-'1"' 4"8 52!"' 4' -'. ('"' "(1-' (015"' 1--1' 08*- 2-' 8') -' "((028"' 06' ', 1' (18'2. 1-/ "8:' 8' ', 0-1

54?3 4: 2 5'*< +3 3'B;'2* /3* 7 '39 44 '9 33E + 47<+47 ' =' +47 ' 2 9'*<)3 ?'9 '*<7'9+'*< :32 7 3 4: +3 452*)3<'4* ' +3 /+'3: =3264* ' 2*?'0'*?33? +3 4*)(4*3 +3)2*9R73*3 ' /47)? 793 7* ') +3 @2)3 =29 =4* 4 ')49 ' =29 +'9 9632 $ +3)3*< + 4: =+'/+ ' 3;3* @3:4 3 +')'6 '* 4?7/3? +3 3*4 5479 92 '992 ' 9335 9 4 +2;3 2))4=3? +2 ' +3 :47 +)'*3 9+47)? 356)4(' ' ' =' + 3::3/ $ 94 +2 ' :4 ' 3;3 (52* '* +3 :' 9 ' 2*E :47 ' 9632 B+32?9 9 3 /+ ' 47 ' 4 533 ' +3 3*35 (' 3 3 =3 <3 ' 2* 3A6)2*2 '4* 4: +3 ?'::3 3*/39 '* +3 ?3:3*9';3 2 547 ' 4: +3 3 ;'2* /)29939$ =+3 3 +3 93/4*? +2? *4 /42 ' 4: 52') +3 +' ? *3' +3 ' '*9 *4 ' < 32;39 ' +3(5'<+ ' @3 962 3? +3 3A63*93G :4 ' +3' ' /4R '*<3* 9 52?3 76 +3 +'*?3 ' 2*E9 ' =+'/+ =3 3 /4;3 3? @(+3 @4?'39 2*? =3264*9 4: +3 53* @3:4 3 +35 ' +'9 :2/ ' +2 ' +3 :' 9 ' /)299 :4 53? +3 ;2* ' =29 E*4=* 4 #'4*(9'79

54*< +3 +3 3?' 2 (:4 59 =+'/+ +2;3)4*< 47)';3? +3' ' /27939 ' =29 +3 452* 6 2/ '/3 4: ? 2='*< 76 '* :')3 3* ?336 ' +2*?3? ?4=* : 45 +3 '53 =+3* 3;3 (/3* 7 (+2? +' (53* ' : +3 6+2)2*A =29 '5':4 5 ' 97/+ 2 /3* 7 (9 44? =' + + 33 53* '* : 4* G @7 ' ': +2): 4: ' ' =29 52?3 76 4: 53* /456)3 3)(2 53?$ =+')3 +3 4 +3 ' +2): =3 3 '563 :3/)(94 ' ' @3/253 *3/3992 (4 :4 5 32/+ /3* 7 ('* 4 9'A +2): :')39 ' '*9 32? 4: + 33 :7)) 4*39$ 94 +2 ' +3 +2):B2 53? 9+47)? @3 9 2 '4*3? @3C +'*? +3 53* '* :7)) 2 547 ' '* +3 <'A + 2*? +3 :4))4=C '*< 2*E9 +3' ' 54?3 4: 2/ '*< '* +3 6+2)2*A =29

06 ', 1 1".! 1- 04"8 +".-/ 06'18 '"!D- 06 ', 1 5, "!"8;3 "8: ', - ("8G 80" ". -1 41.1!*6.04 , - + -, '0 2-1 " C.11D +0. : 60. ', 1 !17 08 ? 60. 8 -51"D 87 06 "8 '.2-("8 ". 4*, 1 418' 08- ', 1 60.(1 + ', + , (! ', 1 5, "!"8; :.0@1 ', 1 1814* :0+8 , !!

08*- 2-/ @ F/ -"*- 06 ', 1 -1(08 : (!"--/ 1 (1 0!. 4 <$ 06 ', 1 ', .:/ .'X8#X2 L"..0 6 662 ,) . 1 0 8 / '0 ', 1 -"41 1661('/ ', 1 *02', 06 ', 1 6 .- (!"-- $1) , ((5L I. ', " 06 ', 1 -1(08: .0'A 8*+0 $ 06 ', " 06 ', 1 ', .: (.0+- 1 0 . -

2)549 ' =+4))(' 53/+2*'/2)' <';'*<' :4 /3' 4' ' 9' 4*93 ' 2*?' /4562/ *399' 4' ' 9' 5299 ' :' +3' *75@3 ' 4:' /3* 7 '39' '''5'9+ ' @(' +3' 93/4*?' 2*?' +' ?' /)299' =29' 4*)(' ,79 ' +3' 9253' 29' =+2 ' +3' ,7*'4 9' 4:' +493' /)29939' T"43?' =' + ' +3(' 53 3)(' :4 53?' 2' +' ?' 4:' +3')3<'4* ' +3' 6 '*/'6)3' 4:' +3' 2 2(' =47)?' @3' +3' 9253G @7 ' ' =47)?' +2;3' @33*' '*' *'*3' 2*E9 ' 4' 2;4'?' @ 4E3*' 4 ' 5'A ' 4*39 ' =+'/+' =3 3' /4* 2 (' 4' +3' 96' ' ' 4:' +3' 2*/'3* ' *2 '4*9 ' *?' '*?33?' +3' 6 464 '4*' @3 =33*' +3' *75@3 9' 5'<+ ' 356 ' 79' 4' 299753' +2 ' +'9' =29' +3' 2 2(' '*9 32?' 4:' +3' 4*3' '*' 3*' 2*E9G @7 ' =3' :'*?!' 2' 9 2 353* ' =4 +(' 4:' 7*/4*?' '4*2)' @3)'3:' =+'/+' '<+)(' 3A6)2'*3?' 2*?' 7*?3 9 44?' 6 4;39' +2 ' +3')2 3 ' =29' +3' 73' *3' 2*?' 6)2/39' +3' 9/2)3' =+3 34*' +3' /)29939' 93 ;3?' =' +' 62)62@)3' 3;'?3*/3' @3:4 3'

79

%4 ' +'9' 9 2 353* ' =3' 2 3' '*?3@ 3?' 4' +3' E'*?' <3*'79' +2 ' +29' 2E3*' 4//29'4*9' 4' 2)' 26632 2*/3' 2//'?3* 2)' 4' 6 393 ;3' =+2 ' 6 4;'?3?' =3' 2 3' *4 ')2H(' '*' 47 ' 3932 /+39 ' =')' 2)=2(9' @3' 97@9 2* '2))(' 97:''/'3* ' 4' 3;';3' +3' '52<3' 4:' 2* 'R7' (' +3' 6)2*' 4:' +3' 452*' /4*97)9' '*' +3' @2)3' *32 ' "397;'79 ' 4' '*/ 3293' +3' 9 3*< +' 4:' +3' ' 2 5(' @(' ?362 '*<' : 45' +3' @32 3*' 2/E' 4:' +3' 7972)' 4 ?3 ' 4:' @2)3 ')3?' 2*' 2**2)'9 ' =3))' 2/R72'* 3?' =' +' 2*C /'3* ' /79 459' 4' ?39/ '@3' +2 ' 4 ?3 G 2*?' +3' ?'?' +'9' 94' 2@)(' +2 ' +47<+' ';(' R7' 3' 5'97*?3 9 44?' =+2 ' +3' =29' 2*96)2* '*<' '* 4' +'9' +'9 4 (' ' ' 52(' @3' /456)3 3)(' 3C 9 4 3?' +3B2 59' +2?' 2) 32?(' @33*' 2) 3 3?$' +3' 6+2)2*A' 394);3?' '* 4' 52*'6)39G @7 ' +'9' 394)7 '4*' ?'?' *4 ' /+2*<3' ' 9' /45649' '4*' 4' 52*' 3;3 ' /4*/3';3?' 2' < 32 3 ' '*;3*C '4*' +2*' +3' =+4' 2*9:4 53?' +2 ' '*2*'52 3' 5299 ' 2*?' 4 <2*'H3?' ' ' '* 4' +3')';'*<' @4?(' 4:' 2' 452*')3<'O*$ 2' @4?(' /45@'*'*<' 3;3 (' ;2 '3 (' 4:' 4469 ' 29' ' ' =3 3' 2*' 2 5(' /456)3 3' =' +'*' ' 93):' +3' 2@94)7 3' 63 :3/ '4*' 4:' 2' 5')' 2 (' ?';'9'4*$ 6 362 3?' 4' 4;3 /453' 3;3 (' @2)3B2 2(' 2*?' 3;3 (' E'*?' 4:' 4469 ' 3;3 (' :4 5' 299753?' @(' +3' 96'C ' ' 4:' =2 ' '*' *2 '4*9' +3' 549 ' ?'::3 3* ' : 45' 32/+' 4 +3 ' 7 ' +'9' 44' '9' 4*3' 4:' +493' < 32 ' '*;3* 4 9' =+493' *2539

2 3 @7 '3? :4 3;3 '* 4@9/7 ' ($ 2*? (3 2997 3?)(=3 32? +'9 *253 '* +3 %29 ' 2) +47<+ '* +'9 4 (' ' '9 9 '6 4: ' 9 549 @))'2* 3*4=* 3;3* ': 29 +3J3 '9 < 47*? :4 97963/ '*< ' =29 25'))79

+3 '53 2*? 6)2/3 :4 3A6)2'*'*< +'9 4 ?3 4: @2)3 '* ?3 2') 0;') 4//7 +3 32: 3 %4 +3 6 393* +3(=+4 +2;3 +' +3 4 :47*? 53 29 :2 354;3? : 45 +29 '*399 29 : 45 '*9'*/3 ' (=') 2E3 +3 :4))4='*<64'* 9 29 397) 9 :4 +3 /4 3/ *399 4: =+'/+ 25 +3' 6)3?<3 7* ') @ '*< :4 =2 ? 5(6 44:9 * +3 < 32 =2 =' + +3 2 '*9 +3 452*9 9 ')) 93 ;3? 2//4 ?'*< 4 +3 /)29939 @7 *4)4*<3 '* 2 6+2)2*A +3 :' 9 /)299!93* :4 (/3* 7 '39 +3 3A2/ *75@3 4: +3 ,7*'4 ;4 39 '* 'E +' (4: +393 :4 53? +3 3* =3 3 9 2 '4*3? 254*< +3 =+4 579 ?47@)399 +2;3 4=3? +3' *253 4 +3' @3'*< 52?3 76 47 4: 2) +3 + 33 +32;(C 2 53? /)29939 +3 93/4*? 2*? +' ? '*)'E3 52**3 :7 *'9+ :4 (/3* 7 '39$ =3* (26'3/3 ?47@)3 +3 *75C @3 4: +3' ,7*'4 ;4 39G 3* 4: 32/+ 9/4 3 52?3 76 +3 +29 2 39 =+4 @4 3 9+'3)?9 2*? 3* 9 44? 254*< +3 'C 2 '2*9 +3 :47 + 2*? :': + /)299 2<2'* 9766)'3? :4 (/3* 7 '39$ +3 :4 53 3* +3 +29 2 39 =+4 /2 '3? ,2;3C)'*9 =' +47 9+'3)?9$ +3)2 3 +3 +' (/3* 7 '39 4: +3 4 2 '2*9$ =+'/+ 2<2'* =29 ?47@)3 +3 *75@3 4: ' L ,7*'4 ;4 39 3 3 =3 +2;3 + 33 ?';'9'4*9 32/+ 4: =3);3 +7*? 3? 53*$ +3 :' 9 4: +46)' 39 '* :7)) 2 547 $ +3 93/4*?B4: 53* '* +2): 2 547 $ +3 +' ? J;' +47 2*(2 547 +3 3 /2**4 @7 3/4<*'H3 +2 +393 :4 59 @3)4*<3? 4 +3 452* 9 2 3 '* ;3 (354 3 2<39G :4 +3 /3* 7 '39 2 3 9766493? 4 +2;3 +3' :7)) /456)353* 2//4 ?'*< 4 +3 4 '<'*2) 9/+353 +2 4: 3 ;'''9 =+3* +3 3 =4 3 +' ('@39 0Z\. +3 2*A'3 (

P " ', 1' ' 41 06 ', 1 "' 8 +".' ', 1.1 +1.1 -1@18 "8: ' '+18'* '.)1-3 "8: (08-19218'!* I2-" -0 4"8* -0!: 1.- 8 "(18'2.*?)2" ', - @". "):!1 824)1. +02!: , "@1 7 @18 . -1 '0 51.5!1 ; ' 1- 0 0)@ "'1 4 -28:1.-'"8: 87-/ 0.6.04 , - 0+8 28(1.'" 8'*/ @*' ("!!-' ', "" 5"." 06 ', 1 !17 08/ +, (, 8 02. 5, ."-10!07* +02!:)1 '1.41:' "')"'"'"! 08

4 6 393 ;3 *753 '/2) 9(553 (' '9 2<2'* 63 /36 '@)3 '* +2 ' +3 /4* '*<3* ' 4: +3 :47 + /)2999 =29 *4 54 3 +2* 3R72) 4 +^ *75@3 ' 4: ' 9 ,7*'4 ' /3* 7 '39$ =+')3 '* +3 4 +3 ' + 33)4=3 ' /)29939 ' ' ?47@)39 +3 *75@3 ' 4: +3' 9 ' 39'?39 ' 29 +3(' =3 3 9 2 '4*3? 254*< +3)'<+ B 2 53? 4469 ' 2' < 32 3 ' *75@3 ' 4: +35 ' =29 *4 ' =2* 3? ' 2*? '*?33? ' ': 44 < 32 ' =47)? +2 ;3 @33*' 2*' '*/75@ 2*/3 ' 4=' 9'*/3 +3 :' 9 ' ')29< 9766)'3? {'3 9253 *75@3 ' 4: /3* 7 '39 29 +3 *3A ' =4 @3 =33*' +35 ' =3 <3 ' +3 6 4C 64 '4*' /4*,3/ 7 3? 2@4;3 :4 ' +3 6+2)2*A ' :';3 2*E9 4: +3 :4 53 ' :';3 4: +3 =4)2 3

+3 *75@3 ' 4: +3)'<+ ' '*:2* (' =29 +2): +2 ' 4: +3 4469 '* +3 6+2)2*A$ =+'/+ 2< 33? =' + +3 9(9 35 ' 4: +3 33E9 ' › +3 ' 9 44? 262 ' : 45 ' +3 6+2)2*A 2*? +3 $ ' 29 +3(' ?'? 262 ' : 45 ' +3 /)29939 ' +3' ' @79'*399 @3'*< 4 2E3 +3 2 59 2*? +3 6)2/39 4: +3 E'))3? 4 ' 5'99'*< ' =29 329')(' 52*2<3? '*' 97/+ 2*' 4 ?3 ' 4: @2)3 6 :4 ' 29 944*' 29 2 <26 =29 52?3 ' ' =29 *2 7 2))(

)*' ,1 8:16 8 '1 +0.:-/ ' 'H 8-'1":' 06 '-' .21 8"41/ Q ' +, (,' +"-' "6'1.+".:' '."8-61..1:' '0' "@1.*' : 661.18'!*'(08-'.2('1:' 5".' 06' ,1 81+' !17 08' -' ,1 0. 7 8"!' 824)1.' 06' ,1 ' .)1-' 62. ' 8 -, " (0,0.'-' 06' 8 81 ,28:.1:' 418/ ',1*' ("880'/ +,18 ' ,1 ' .)1-' +1.1 .1:2(1:' '0' '+18'*/ ,"@1 (08- -'1:' 06' 40.1 ' ,"8' - ;' ,28:.1: , -' +"-' . 7,'!*' 28:1.-'00:')*' ,1 "88"! -" +,0 +.0'1 ' ,"'/ 8' ,1 0!-("8' +"' 06' ,1 *1".' F /602.' (0,0.'-' 06' - ;' ,28:.1:' 418' "5 1(1 +1.1 :."+8' 25)160.1 ' ,1 7"'1-' 06 09 1? 08*- 2-/ ; 'B ' 8 F ' ,1 !17"'1' H ' 2. 2-/ +,18 ' ,1 92 " -' +1.1 -'0.4 87 , -' ("45/61!!' 2508 ' ,14 + ,' '+0 (0,0.'-' "4028' 87 '0' 80 40.1 ' ,"8 " ' ,02-"8:' 418? ?, ' ' ' ' ' f3S020Q"<

L'L TJ +,1.1 ' ,1 '."8-!"' 08 06 C1!18 2-' ' 'W ' +, (,' -' 41"8" '0)1 6.11/ 8'.0:2(1-' "8 1..08102-' 80' 08 ' ,1*' (08- -'1:' 06' ,1 5. 8(51-/ N ' 8-'1":' 06 F / "8:' ' ,1 ,1"@* ".41:' ,"-'"'1-/ ' 8-'1":' 06 N ? 08*- 2-/ L 'N ' 7" 8 ' ((2-' (044"8:-' " (0,0." 06 1 7," ,28:.1:' @1'1."8-/ +,0 +1.1 80 !0871.' ! ")!1 '0' -1.@ (13 ' ," -' '0' -"*/ '+18'*' 6.04' 1@1.*' -18 0.' (18'2.*' 06' ,1 6 .-" (!"--? 08*- 2-/ ; ' '

T ',' -2(,' "((2."(*' +1.1 ' ,1-1' 6 (' 08-' ": "5'1:' '0' ,1 60.4-' 06' "8(18" 41-? "8:' ' ,2-' ' ,1 60.170 87 -'"'1418'-' 1@ 8(1 ' ,")0' ,' ' ,1-1' 5.050-' 08-' +1.1 .1(078 _1:' "-' , -'0. ("!!*' '.21/= ' ," 0. 7 G 8"!!*' ,1.1 +1.1 ' , .'*' '.)1-/ "8:' "6'1.+".:' 08!*' '+18'*

:'))3?' 76' @(' +3' 52*' =+4' 9 44?',79 ' @3+'*?'2*?' +3' *3A '
4' +'5' 2?(2*/3?' '* 4' +'9' 6'2/6'$ 94')'2 ' +3' 97@9 ' 7 3'
+2?' 4' /453' '*' :2 ' @2/E' '*' +3' ^2 ' =+3 3[+3' 5299' 4:'
+'9' /45 2?39' 27<+ ' +'5' 63 :4 /3' 4' 9 2*?' 43 52 /+' '4'
:2/3' 2@47 ' 2*?' +2 ?)(' 2*(+'*<' =29' =2* 3?' @7 ' 9 3*< +'
4:')'5@' 3))!' 2'*3?' 94)?'3 9' =3 3' 4*)(' *33?3?' 29' 93 '
,32* 9' 2*?' /4 64 2)9' 4 ' '*' +3' /4562*'39' 2 ' +3' i3*?' 4:'
+3')'*3 ' =+'/+' @(' =+33)'*<' 47*?' 5'<+ ' @3445 3' +3' @32?'
4:' 2' /4)75 *$ 2*?' '*' 9453' ?3< 33' '*' +3' /4562*'39B*32'Q
+3' 3*?

4=' 2') +47<+' +3' :' 9 ' /)299'!=29.J94' :2 ' : 45' '@3'*<'
? 2'*3?' 47 ' 6:' 6 464 '4*' '4' ' 9' *75@3 9 ' +2 ' ' ' 2 +3 '
)44E9 ' =+'/+' +4=3;3 ' 52(' @3' 2' 53 3' ?3)79'4*' ' 29' ':' +3'
93/4*?' +2?' @33*' 7*:2')(' ?32) ' =' +' : 45' +3')4;3' 4:'*753C
'/2)' 9(5 53 '('$ (3 ' +9' :4 53 ' ?'?' *4 ' <2'*' ' 9' 64)' '/2)'
6 ';')3<39' :4 ' *4 +'*<G' :4 ' ' 9' /3* 7 '39 ' 29' +3('' :4 53?'
+3' 4* ')'*39 ' 9 44?' +3' @ 7* ' 4:' +3' :'<+ ' +3'E*'<+ 9'
44' 65!/@29 ' +3' ' 6 3/3?3*/3'@(' 2')2 <3 ' 9+2 3' 4:' ?2*<3 'G
!:4 ' +3(' =3 3' ?3:3/ ';3)(' 3R7'6 ' 329')(' ?'92 53?' 2*?' 54 3'
3A6493?' +2*' +3' 39 ' 4' ?2 9' 2*?' 4' +3' 9 4*39' 2*?')32?'
4:' +3' 9)'*<3 9

+393' +7*? 3?' 2*?' =3* (' /3* 7 '39' 9 2*?'*<' 7*?3 '
2 59' 52(' 63 +269' +2;3' <';3*' 92*/ '4*' 4' +3' 39 253* 9'
=+'/+' +3' 94)?'3 9' 52?3' @3:4 3' @2)3' %4 ' '*' ' 9' 4 '<'*2)'
96' ' ' +'9' /3 354*(' /2**4 ' 6499'@)(' +2;3' @33*' 2' 53 3'
?3/)2 2 '4*' @3:4 3' =' *39939$' @7 ' =29' ,79 ' 29' *'7/+' 2' ?3B$
/ ^^' 4:' 2//36 2*/3' @(' +3' /4557*' (' :4 ' +3'6)3@3'2*9 '
29' ' ' =29' :4 ' +3' 62 '/'2*9' =+3*' +3' /7 '39')3<2)'H3?' 2'
39 253* ' 4 ' 2*' 2) 3 2 '4*' 4:'<3* ')3' '<+ 9 ' *?' +79' '
+2;3' *s' ?47@ ' +2 ' ''3' 6)3@3'2*' 39 253* 9' =3 3' 2 ' :' 9 '
2//36 3?' '*' +3' 345' '2' 4:' +3' /)29939 ' +^' '$ +'
'4*' +3' :'3)?' 4:' 2 9'$ +3' 6)2/3' 4:'=+'/+' 29935@)(' 94'
)4*<' 29' +3' 2:'2' ' =29' 2' 53 3' :4 52)' (' 5'<+ ' @3' :'))3?'
@(' +3')'*39' '*' @2)3B2 2(' +3'$ '$ '(' '') +47<+' +3 3'
+3' ;4 39' =3 3' ?':':3 3*)(' @2)2*/3?.' +'9' ?':'3 3*/3

.' 33' "3))3079' 2 3 /7)79 ' * 'm$')7 2 /+' 4;'4)2*' /'

+4=3;3 2*? +3 *3<)3/ 4: +3 '<+ 9 4: +3 :' 9 /)299
=3 3 :2 : 45''552 3 '2)',;+3* Y =+2 2997 3?)(+2663*3?
57/+ 4: 3*3: +2*' ' +29 @33* 3/4 ?3? Y 2 32))2= =29
4 @3 629 ''* +3 /256 29 ' '9 3)2 3? +2 +3 ?3/ 33
4: +3 /7 '39 2<2'*9 +3 2 R7'*9 =29 /4*:' 53? @(' +3
2 5(' @3:4 3 ?32 *' 97/+ 4//29'4*9 +3 3:4 3 +3
/4*9 ' 7 '4*2) 6 464 '4*' 254*< +3 93;3 2) /)29939 =29
39 4 3?' :' =3 /2)) 4 5'*? +3 9 2 3 4: +'*<9 2)) +3
93*'4 /3* 7 '39 =3 3 =2* '*<6 +3 ,7*'4 =+3*' +3 ?47C
@)3 /4* '*<3* 9 =3 3 37*' 3?' /253 4 6 @39'?3 +393
+3 3 =3 3 +3 :';3 7*/)29 4*39 52E'*< *'*3 (' '?' 2))
:' +393 +3 :' 9 /)299 =' + +3 /2 63* 3 9' +2? X $ +3
4 +3 :47 =' + +3 :47 4??/3* 7 '39 X\ 4=' 2)3<'4*'
/4* 2'*3? +4 9353*' 4 3*' 7 59$ 32/+ 4: =+'/+ =29
3R7';2)3* 4 2 /3* 7 (' 4: +' (' 53*' 2*? +3 3:4 3 *4
?47@ ;4 3?)'E3 4*3C 94 +2 '*')''9 =2(' +3 E*'<+ 9
2*? +3 :' 9 /)299 4<3 +3 +2? ;4 39 2*? 3A/33?3?
+3)3993 54'3 (' @(' =4 6 2))' 4<3 +3 52?3 76 ,79 2
+7*? 3?' +2 =3 3 +3 /' /759 2*/39 2 3*?'*< +3
)2=' '*' +3 /256 2 7 '75 @(' =+'/+ 2 ?7 (' 4: :';3
63 /3* =29 '56493?' 4*' 52*75'99'4*9' '9 2 ;3 (' 63 B'
6)3A'*< R739 '4*$ 9'*/3 ' '9 9 2 3?' 4 +2;3 @33*' 629 @(
+3 '@39

+3 3<7)2 /45''2 4: +3 /3* 7 '39 4: @4 + 2<39
29935@)3?' 4*' +3 :'3)?' 4: 2 9 3;3 (' /3* 7 (' 7*?3 ' 9
/26 2'*' 7554*3?' @(' +3 E'*<' 4 @,' +3 52<'9 2 3
=+4 4//76'3?' +'9 6)2/3' +3(' ?3 3 5'*3?' 4*' 97/+ 6 4C
6492)9 4: +3 93*2 3 /4*/3 *'*< 3)3/ '4*9 2*?')2=9 29
=3 3 67 4 +3 ;4 3 @(' +3 63 94*' =+4 6 39'?3?$ =' +
63 :3/)'@3 (' 4 3,3/ +35'6 @7 +3' 2//36 2*/3 ?'?'
4 2/R7' 3 :7)) :4 /3 7 ') 266 4;3?' @(' +3 /7 '39 *'
/26' 2) /27939 =+3 3 +3 /+2 <3 /4*/3 *3?' 2*' 4::3*93
2<2'*9 +g =+4)3 *2 '4*' *4 2 ;'4)2 '4*' 4: +3 '<+ 9 4:
2 62 '/7)2 4 ?3 +3(' ?3/'?3?' 2)4*3 I .$ 2 B)329 2: 3

.)2' 4 '? @*/@ N
Y , -' "' !1"-" -' .15.1-18'1:')*' 08*- 2-/ +,18 .1!"' 87 ',1
'. "!' 4: 0. 0!"82-/ '0 ,"@1)118 ',1 5. 8(5!1' 06 ',1 (08-' '2' 08?

+3 '53 4:' +3 ?3/35;' 9' 9 ' ' 52(' @3 /4*9'?3 3?
7*R739 '4*2@)3 +2' +3'6)3@3'2*9 4 '<'*2))(' 52?3 +3' '
39 253* 9 '*' +3 :'3)?' 4:' 2 9' ,79' 29)'3 B62 '/'2*9
?'?' '*' +3 45' '75$ 94' ' =47)?' 9335' 3R72))(' /3 ':'*'
+2 ' 29 2*' 2 4<2 '4*' 3R7' 3?' 2' ?3/ 33 4:' +3 /7 '39. 0
+3 2?46 '4*' 4:' 6)3@3'2*9 579' +2;3 2E3*' 6)2/3 @3:4 3
+3 /3* 7 '39' 2(' +3 9253 +'*<' 52(' =' +' < 32')'E3C
)'+44?' @3 /4*,3/ 7 3?' 4:' 3;3 (' 2*92/ '4*' :4' +3 :4 52)
/456)3 '4*' 4:' =+'/+' :';3 =' *39939 =3 3 '*' 2: 3 '539 3C
R7' 3?' 9 +3 /7 '39 =3 3 36 393* 3J' @(' +3)'/ 4 9:'
94 =3 3 +3 /)29939 @(' +393 =' *39939' =+3*' +3 /4*93*'
4:' +3 /45' '2 +F?' @3/453 2' 52 3' 4:' /47 936 2*?' 9'*/3
+3 2796'/39' 94)4*<' 29 +3 2*/'3*' /79 459 6 3;2')3?'
=3 3 *4 ?47@' 2E3*' 2')329' '*' 2))' 2*92/ '4*9 52 3C
'2))(' 2::3/ '*< 63 94*2)' 3)2 '4*9' +3 :4 52)' (' =29 :7))('
97::'/'3*

)'3)'@3 '39 4:' +3 /4554*2) (' 29 :4 5'*<' 2 62 '
4:' 4*3 @ 2*/+' 4:' +3)3<'9)2 7 3' =3 3 /4*:'*3?' 4 +'9'
+2' ':' +3)3<' '52 3 /47 93 4:' +'*<9 =29 *4' ?'9 7 @3?'
@(' :4 /3 4' @(' 2 ':'/3' *4 *2 '4*2)' 52<'9 2 3''2*?' *4
)2=' /47)?' @3 + 79' 764*' +35' 2<2'*9' +3' ' ?3/'?3?'
3<2 ';3' 7' 4:' +3' ' 4=' @4?(' *4 6 4649' '4*' /47)?'
4 '<'*2 ^6 *4' /47)?' 2*(' 4*3 /453 :4 =2 ?' 2*?' 9632E'
4*' +3 6 4649' '4*9 2'?' @3:4 3 +35' 4 +2' +3 92/ 'C
:'/3 52?3 @(' +3 62 '/'2*9 2' +'9 /+2*<3 =29 ;3 (' ':)'*<'
)'3 3 '9 *4 2/3 =+'/+' /47)?')32?' 79 4 97963/' +2'
+3 93*2 3 =29 *4' /456493?' 4:' +35' 3A/)79';3)(6 2*?' ':'
2' 2*(' '53 2'6 4649' '4*' 4::3*9';3 4 +3' ' 4 ?3' =29 *4 C
=' +9 2*?'*<' @ 47<+' @3:4 3 +3 /3* 7 '39' 2*?' 2//36 3?'
+3 3 =29 *4 +'*<' 4 +'*?3' +3 (47*<3' 62 39 :45'
+ 4='*<' ' ' 47' '*' +3' ' 4=*' /45' '2' *' +3 4 +3

@8'DV' 8' ',1-1'0(("- 08-' ',1*' +02!:')1' -244081:')*' ',1' :2246
@.-' 06' .1"-08? "8:' -2(,' 08*- 2-' (08(1@1-' '0' ,"@1')118' ',1'S.0'
(1--' "7" 8-" 5' "-- 2-? @ !' ?? ? 4*' -(.25!1-' 08' +, (,' 50 8" ' + !!'
). 87'60.+".:' 8' ',1'5.051.' 5!"(1? -11' 0!' /'80'1' NN

A'C1!! 2-/' ' F' ' (1.0/':1' 17' 7.' 2/' 'S #

' '

+2*?' +3' 62 '/'2*' 39 2 3' 2*?' +3' <4;3 *53*' 4:' =+'/+'
':4 53?' +3' 947)' 649939'*:)73*/3' 2*?' 532*9' :4'=4 E'*<'
4*' +3' /3* 7 '39' 3;3*' =' +'*' +3' *2 4=' 96+3 3' 4:' +3''
27 +4 ' (' 62)(' @(' +3' ;4 39' 4:' +3' 3 2 '2*9' 62)(' @('
2E'*<' +3' 29935@)(' @(' 97 6 '93' 4' @(' ' '*<' ' ' 47 ' 94'
29' 4' :4 /3' ?3/ 339' 764*' ' ' ?' 3/)(' 2?;3 93' 4' +3' =')'
4:' +3' 6)3@3'2*9

3;3 +3)399' ' ' 9' 92'?' +2' +393' 9)'<+' 39 '/ '4*9'
2*?' +3' 53297 39' =+'/+' =' +47' =' +? 2='*<' 2*(+'*<'
: 45' +3' +47939' '*' +3' 4 +3' ?362 53* 9' 4:' <4;3 *53* '
53 3)(' <2;3' +3' /45 54*2) (': 33?45'?'<*' ('2*?' 3963/ C
2@')' (' =3 3' *4' /4*/3?3?' @(' +3' 62 '/'2*9' 2//4 ?'*<' 4'
+3' 3<7)2' :4 59$' 94' +2' +3' =+4)3' =32 9' +3')44E' 4:'
+2;'*<' @33*' 3:):3/ 3?' @(' +3' 2@94)7 3' 64=3' 4:' +3' E'*<'
' '9' 92'?' +2' +3(' 44E' 2=2(' +3' E'*<09')':3' '*' 2*' '*C
97 3/ '4*' =' +' =+'/+' +3' +2?')4*<' @33*' 2=2 3' +2' +3('
=3 3' + 32 3*'*<'+'5

4' 7*9' +3' 2?' '4*C 2*?' +2' +3 3' =29' 2')329' 2'
9 7@@::5' 39'9 2*/3' 4*' +3' 62 ' 4:' +3' +47939' =3' 52('
29975 3' =' +' *4')399' /3 2'* (' +2*' ':' =3' +2?' /4* 35C
64 2 (' 5354' 9' 4' 39 2@)'9+' ' ' %4' 3;3 (' 4)'<2 /+(' '9'
3*;'479' 466 399';3' 2*?' ?32:' 4' 3294*' 2*?' 4' 6 7?3*/3'
4' +2' +393' R72)' '39' /)32;3' 4' 2' /)299' @32 '*<' 2*('
62 '/7)2' *253' ' '9' +3' 9253' 96' ' ' 4:' 4)'<2 /+(' 7*C
?3' +3' 954/E: 4/E' 4:' +3' (3452*' 4:' ' ' =+4' *4' 4*)('
?3*'39' +3' 94,47 *3' 2))' +'<+3' 6 ';')3<39' 3;3*' +47<+'
+'9' :4 3:2 +3 9' +2;3' @33*' 93)3?' '*' +3' /2* 4*' :4' <3*3C
2 '4*9' @7' 4@9' +'5' 4:' 97/+' @2 3' /4554*' '<+ 9' 29' +3'
+29')4*<' 3 * , 4 (3 ? 2 * ?' 7*?3' +3' ;3);3' 52*)3' 4:' +3'
"3*3 '2*' *4@)3' +3' 62 '/'2*9' '*' +3' ' /4*?7/' 2*?' /+2C
2/ 3' 9 44?' ;3 (' 57/+' *32 3' +3' :4 53' +2*' +3')2 3
+2' +3' 62 '/'2*9' ='9+' 4' 63 63 72 3' 2<2'*9' +3'
6)3@3'2*9' =29' =+2' +3' 62 2*9' 52'* 2'*3?' 2<2'*9' +3'
2/3?354*'2*9' 2*?' +3' $ & 2*?' +3' +'9 4 (' 4:' 62 2

' '"D1' ', -' 8-'"8(1/)1("2-1' I2-" 80+/ "-' ' "4' +. ' 87' ', -/
'' ,"-')118').027! "60.+".:' 8' "' .1408-'."8(1')*' ', 1' ("8'08' 06' '! 1'
C. -58-

'9' 2' 5' 4 ' 4:' =+2 ' +3' 452*(' @7 ' :4 ' +3' : 33?45' 4:' +3' 6)3@3'2*9 ' =47)?' +2;3' ?'96)2(3?' 9')'3' 62 2*9' ?'?' *4 ' 362' ' +3' ')4993 9' @(' 2?5' '*<' *3=H/' 'H3*9 ' 2*?' ?'?' *4 ' 962 3' +3' ' @)44?' +3(' =3 3' 3?7/3?' 4' 94' :3= ' +2 ' 2: 3 ' +3' @2)3' 4:' 37/ 2B +3' ' 356' 3' :3))' 4' 6'3/39' '*' 2*' '*9 2* '$ 2*?' +3' 3A'9 3*/3' 4:!' +^' 9 2 3' =29'> 4*)(' 6 393 ;3?' @(' +3' :'?3)' (' 4:' 2' 62 ' 4:' +3' 2/4*'2*9 ' ;3*' +'9' +4=3;3 ' ?'?' *4 ' 2=2E3*' +3' /4*9/'3*/3' 4:' +3' 62 2*9 ' 4 ' =3 3' +3' ' T3(39' 463*3?' =+3*' +3' < 32 3 ' 62 ' 4:' +3' 97 47*?'*<' /47* (' ,4'*3?' +3' ' +3 3?' 2 (' :439$' =+3*' +3(' :47*?' +3593);39')';'*<' 9/2 3 3?' +3 3' 2*?!' +3 3' '*' +3' ' 962/'479' /' (' 25'?' 2*' 2)'3*' 4 ' +49 ')3' 6467)2 '4*$' =+3*' +3(' =3 3' :4 /3?' 4' +' 3' 53 /3*2 '39' :4 !' +3' ' =2 9' 2*?' 4' @3<' :4 ' 97@9'?'39' :' 45' :4 3'*' 6 '*/39 ' +79' +3' ' 9 2 3' /4* '*73?' 9 3*< +)399 ' ?396'93?' 2*?' 2 4C <2* ' ? 2<<'*<' 4*' 2*!' 7 3)(' 54 @'?' 3A'9 3*/3' :4 ' 2' /3*C 7 (' 2: 3 ' ' 9' :2))' ')29 ' =+3*' *4' 2(' 4:' +463' =29')3: ' ' 9' E'*<9' 4' =+45' +3' ' /47* (' =29' *4 ' 2' 52 3 ' 4:' '*C ?':::3 3*/3 ' 29' ' ' =29' 4' +3' 4)'<2 /+9 ' 3*?32;47 3?' J ' 92;3' ' ' @(' 2' 3;4)7 '4*' ' =+'/+' 2*9:4 53?' +493' 6)3@3'2*9' 94')4*<' 256)3?' 7*?3 ' :44 ' '* 4' 2' *3=' 2/3?354*'2*' 6346)3 ' *' +'9' 6346)3' +3' 62 2*9' =3 3' 53 <3?' +2;'*<' '*' :2/ ' 2) 32?(' @3/453' 7 3)(' '*9'<*':'/2* G' 2*?' '*' +3' ' 9 32?' +3' 2/3?354*'2*9' 26632 3?' :4 ' 2' =+')3' =' +' +3' 96)3*C ?47 ' 4:' 2*/'3* ' 62 2' 7 ' ' ' =29' 44')2 3' 3;4)7C '4*' :4))4=3?' 764*' 3;4)7 '4*'$ 2*?' *4' 4*3' /4*?' '4*')29 3?')4*<' 3*47<+' 4' @3' 3*?4=3?' @(' 46'*'4*' 2*?' /79 45' =' +' +3' 92;'*<' 64=3 ' 4:')3<' '52/(' =+'/+' 3;3 (' /4*9 ' 7 '4*' 52(' 2/R7' 3' +3' '53' +2?')4*<' 9'*/3' @33*')3 ' 9)'6' =+3*' 3;3 (+'*<' '*' =+'/+' +3' 62 2*9' :3) ' 6 '?3' 2*?' :2 ' 54 3' 5'<+ ' +2;3' @33*' 93/7 3?' 4' +3' ' 649 3 ' (' :4 ' 29')4*<' 2' 63 '4?' 29' +3' 57 2@')' (' 4:' +752*' 3;3* 9' =')' 2))4=

J 4' '*9 ' 7 '4*9')'E3' +493' 4:' 3 ;'79' +3' /4*93* ' 4:' +3' 4 ?3 ' =+'/+' 2: 3 =2 ?' 4;3 + 3=' +35 ' /47)?' *4 ' +2;3' @33*' 4@ 2'*3?' 3A/36 ' '*' 935@)2*/3' @(' :4 /3' 4 ' : 27?' +3 3' =29' 54 3' : 2*E*399' '*' +3' ?32)'*<9' 4:' 2

29 4 =+'/+ ' =29 :4 <4 3* +2 +3 5'*4 +47939 2*? +3 93/4*?2 (' /3* 7 '39 =3 3 2 :' 9 *s)399 ?39 ' 7 3 4:' +35 ' +2* +3 /45 54*2) (' =29 *4=' -

+3 '53 44 /253' =+3*' +3 52*39 4:' +3 6 47? 62 '/'2*9' =2*?3 '*< 254*< +3' ')2 3 ?39/3*?2* 9' 2*? @3+4)?'*< +3 < 32 *399 2/+'3;3? @(' +35 ' 2*? @(' +3 =+4)3 367@)'/' + 47<+ +493 ;3 (')2=9 +3 * 4?7/ '4*' 4:' =+'/+ +2? 94 4793? +3' ' '*?'<*2 '4*' 2*? 93?7/3? +35' '* 4 '*97 3/ '4*' 2*? '* 4 +'<+ 3294*' 579 ' ':' +3' ' /47* (' +2? @33*' 7)(' ?32*' 4 +35 ' +2;3 /4*:39 ' 2*? @33*' 63*' 3* ' :4 ' +3' ' @)'*?*399' 0 ' +47 ' +393)2=9 ' 453')'E3 7 '2' 5'<+ ' +2;3 @3/453 64=3 :7)' ':4 ' 2 93294*'6 @7 ' +3 ' 64=3 ' 579 ' '*')'E3 52**3 ' +2;3 @33*' @ '3:' 'E3 7 '2'B9+3 =47)? +2;3 @33*' 7*2@)3 4:4 5' 2 3<7)2 ' '*:2* ('$ =+')3 +3 64=3 ' 4:' +3 25B *' 39 ' :47*?3? 4*' +3' ' *4@)3 @4?(' 4:' :44 ' =47)? +2;3 2?;2*/3? *32 3 ' 2*? *32 3 ' 4 453' 2*?' @3:4 3 +3(' 53 ' =47)? +2;3 6 364*?3 2 3?

:' +'9 /4*9 ' 7 '4* ' 2)4*<' =' +' +3)2=9 /4**3/ 3? =' +' ' 'b67/+ 29 +3(' 2 3 29/ '@3? 4 3 ;'79 ' +2? /4* '*73? 4 97@9'9 ' 453 =47)? +2;3 2 2'*3? =4 /3* 7 '39 944*3 ' 2*? =' +47 ' 92/ ':'/39 ' 4' 2 +266'*399 ' =+'/+ 2: 3 ' +3 52'*' 62 ' 4:' =+2 ' =29 < 2* 3? +2? @33*' 4 *' 2=2(' /49 ' +3 ' +2 ? /4* 39 9 2*? @' 3 ' 97::3 '*<9 @3:4 3 9+3 :'*2))(' 32/+ ' ' ' 2*3=' ' '9 73 ' ':' +3 9 4 (' 4:' 2' 6346)3 '9)'E3 2')':3$ ':' +3 =32) 4:' 4*3 2<3 52E39 253*?9 :4 ' +3 =43 4:' 2*4 +3 ' =' +47 ' =+'/+' ' ' /47)? *3;3 ' +2;3 /s53 4 6299$ +3*' *4 +2 5' =29 ?4*3 4 453 @(' +3 ?3)2(' +3 67 '*< 4:)' +3 /456)3 '4*' 4:' +3 /4*9 ' 7 '4*' 2)94 67 ' 4::' ' 9 ?4=*:2))' 2*? +3B?36 2;353* ' 4:' +3 *2 '4*' :4 ' *4 9+4 ' '53'6 2*? +3 ' @2 ? 9 7<<)39 ?'9/'6)'*3? 2*? 2'*3? +3 ' 7 ' =4 4 +35' @(' =+45' +3 4::3*93 /45B 3 +'K 2*? 2' /7 93 764*' +493 ' =+4 ' 94 :2 ' 29 '*' +35')2(' ?39 4(3? +3 : 33?45' 4:' +3 6)3@3'2*9K

X

‘ w ‘ ‘ &

#‘ ‘ ‘ %‘ ‘ w

o‘ ?39 7/ '4*‘ =2‘ +3‘ =4 E‘ 4:‘ +3‘ 797 63 ‘ +'‘ =2‘ +3‘ 6 '/3‘ :4 ‘ =+'/+‘ +'‘ /456)'/3‘ 2))4=3?‘ +'5‘ 4‘ 7)3‘ 2‘ E'*<‘ =' +47 ‘ 3;3*‘ +3‘ @2 3‘ 9+4=‘ 4:‘ 2‘ /4*:' 52 '4*‘ @(‘ +3‘ /7 '39‘ ;3 (‘ '<+ ‘ 2*?‘ 6 ';')3<3‘ /4*:3 3?‘ @(‘ 3 ;'7‘ 764*‘ +3‘ /4554*2) (‘ =2‘ 9=36 ‘ 2=2(‘ +3‘ 29935@)2<3‘ 2 ‘ 92/ ':'/3‘ 2*?‘ :39 ';2)9‘ =+'/+‘ +2?‘ 3*?3?‘ 2@4;3‘ 2))‘ 4 +3 ‘ +'*<‘ 4‘ /353* ‘ +35‘ '* 4‘ 7*' 3?‘ @4?'39‘ =3 3‘ 6 4+'@' 3?‘ +3‘ 3R72)' (‘ 4:‘ /';')‘ '<+ ‘ =2‘ 2@4)'9+ ‘ 2*?‘ +3‘ '<+ ‘ 4:‘ 93'H'*<‘ +3‘ 63 94*‘ 4:‘ 2‘ ?3@ 4 ‘ 339 2@)'9+ ‘ +3‘ '/+‘ 6)3@3'2*‘ =3 3‘ 97@,3/ 3?‘)'E3‘ +3‘ 94,47 *3 9‘ 4‘ 2 @' 2 (‘ 2A2 '4*‘ +3‘ 644 ‘ =3 3‘ E36 ‘ 2 ‘ 29E=4 E‘ =' +‘ 94 (‘ =2<3‘ 2*?‘ 9/2* (‘ :44?‘ $ 2*?‘ +393‘ +2 ?9+'6‘ ? 4;3‘ 52*(‘ 4‘ 67 ‘ 2*‘ 3*?‘ 4‘ +3593);3‘ .

3‘)4*<‘ +4=3;3 ‘ +3‘ 466 39 ‘ +2?‘ +3‘ = 3 /+3?‘ 94)2/3‘ 4:‘ 933'*<‘ +3‘ 3A7) 2 '4*‘ 4:‘ +3' ‘ 466 3994 ‘ 7 *3?‘ '* 4‘ ?'952(‘ +3‘ 93*2 4 ‘ 2*?‘ 53*‘ 4:‘ 2*E‘ =3 3‘ +3‘ 4@,3/ ‘ 549 ‘ 3A6493?‘ 2‘ 7*?3 ‘ +3‘ 33E‘ (2* 9 ‘ 4‘ +3‘ 5'9C 79 ‘ 2*?‘ /76'?' (‘ 4:‘ +3‘ 797 63 ‘ : 3 ‘ +3‘ 52**3 ‘ 4:‘ +493‘ (2* ‘ +3‘ +2?‘ :4 53?‘ 2‘ @4?(B<72 ?‘ =' +‘ =+'/+‘ +3‘ 3A3 /'93?‘ +'‘ 9=2(‘ 2 ‘ 6)3297 3 ‘ 2*(‘)49 ‘ +3' ‘)';3‘ 4 +3 ‘ =3 3‘ @2*'9+ ‘ 2*?‘ +3' ‘ :4 7*3‘ /4*:'9/2 3?‘ +3‘ ;2/2* ‘ 6)2/3‘ =3 3‘ *4 ‘ :'))3?‘ 76‘ 2*?‘ 3;3*‘ +'‘ 93*2 3 ‘ '*9'<*':'/2* ‘ 2‘ ' ‘ 952))‘ *75@3 ‘ 52?3‘ ' ‘ =2‘ *3;3 ‘ /2))3?‘ 4<3 +3

>‘ "-- 2-‘ 14 8"/ 920'1:‘ @(‘ 1.@ 2-/ 4*‘ d * ‘ A* ‘ N ‘ H! 8*/ LLL ‘

+47<+ 2'BR7'*'79 =29 2 (2* ' 2*? 29 @2? 2 4*3 29 2*(' 254*< +3 33E9B4:' +3 9253 2<3! ' +3 =29 *4)399 32?(' +2*' 2*(' 4:' +393 ' 4 M3*<2<3 -'* < 32 ' 3*C 3 6 '939 :4 ' +3 96)3*?47 ' 4:' +'9 /47* ('G 2*? %4 7*3)4*< /4* '*73? 4 :2;47 ' +'5 ' *?33? +3 '<4??399 5'<+ ' 329')(' 6 4963 ' +3 7*?3 2E'*<9 4:' 4*3 =+45' *4 9/ 76)3 ?3 3 3? : 45' 52E'*< 793 4:' =+2 3;3 ' =47)? @39 ' :7 +3 ' +'9 9/+3539 ' *' 2 '75' +'9 '*:)73*/3 =29 ='?3)(' 96 32? ' @(' 532*9 4:' / 2;'79 25')'79 4:' 7937)75 ' 4 =+45' +3 +2? <';3*' 4*3 4:' +'9 ?27<+ 3 9 '*' 52 '2<3' 7579 3 ?4*'79 4:' '/'2' =+4 /4*,7 3?h +3 2 '*9 *4 ' 4 79 ' +3593);39 4 +'5 ' =29 /4*?35*3? 4 ?32 +' @(' +3' ' *2 '4*2) 29935@)(' 4*' _' :2)93 2//792 '4*' @ 47<+ ' @(' 2 B R7''''79$ 9453 2 59' =+'/+' +2? @33*' /4*;3(3? '* 4 +'9)4?<'*<9 @(' 32/+3 479 9)2;39' 26632 '*< 4 /4*;'/ ' +'5' 4:' <7') ' 2 '75' @4=3? @3*32 +' +3 52,39 (' 4:' 453 $ 2*? +3*/3:4 =2 ? ' ' =29 +3 4::'/3 4:' +3 452*' E'*< 4 92/ ':'/3 +3 @7))' 2 ' +3 2 '*' ' 764*' +3)@2*' 547* ' @3:4 3 @3 356)3 4:' 76' 3 ' 2 '2 '9 ' '*' @3@2):' 4:' 2))' @3 2))'39 ' 3;3 (' /' (' 3/3';'*< _' 64 '4*' 4:' +g :)39+' 2/+' 93* ' ' 9 2 3? 9+2 3 ' 4 +'9 92/ 3? :39 ';2) ')25@9 ' 5')E' /@3393 ' /2E39 ' +3(' =3 3 +4)'?2(9 :7))' 4:' 6 '5' ';3 53 '53* ' :4 ' =+'/+' +3 :4))(' 4:')2 3 ' '539 ?3;'93? 9(5@4)'/2)' 532*'*<9 ' +3 9='*<'*< 67663 9 :4 ' '*9 2*/3 =3 3 4 /45535 4 2 3 +4=' 2 '*79 ' =+3*' +3 ?'926632 3?' =29 947<+ ' 2: 3 ' '*' +3 2' ' 29 =3 ' 29 764*' +3 32 +. ' +3 3 *'/2*9 44 ?'? +452<3 4 +3 E'*<' 2*? ,4'*3!? '*' +'9 :39 ';2) ' 7 ' +3' ' /4+4 9 =3 3 E36 ' 262 ' : 45' +3)3<'4*9 =+'/+' +3(' 2//4562C *'3?' 2*? =+'/+' =3 3 /456493? 4:' 452*' 2*? 2 '*' /3* 7 '39 7*' 3? '* 4 52*'6)39

+3 :' 9 ' 6)2/3 2 2/E ' @(' +'9 2 5(' =29 73992 4B 53 'J' +3 549 ' :)47 '9+'*< 4:' +3 " 4)9/'2*' /' '39 ' '/+

B ,0-1' 06' ,1' "(1:08 "8' "71/ 40-'!*' ,1' !1" :1.-' 06' 5.06! 7"'1' 41.(18". 1-/ +1.1' "' 42(,' +0.-1').11:' ', "8' ,1' 1".! 1.' 081-')160.1' ,1' H1!050881- "8' +".

A 1-'2-/ ' -(!!24 ' 11' 0!' 8/' 80'1' N

P: 45 +3 6499399'4* 4: ='?3 2*?)7A7 '2*)(' :3 ')3 6)2'*9 ! 3 < 2*2 (' 4: 453 '* (32 9 4: 9/2 /' (' =29 2E3* +3 '*+2@' * 9 : 3353* 2*? 9)2;39 =3 3 94)?' =' + 2)) +3' 97@9 2*/3 2*? +3 ' +3 4: +3 54*3(' 6 4?7/3? =29 ?3;4 3? 4 +3 @7')?'*< 4: +3 26' 4)'*3 356)3 =+'/+ +3 E'*<09 :2 +3 +2? ;4=3? '* +3 2@'*3 =2

+3 :47*?2 '4*9 4: +'9 356)3 /4*97532? +3 964')9 4: 453 '26 2*? +32;(' 2A39 =3 3 *33?3?' 2*? +2 ? 29E =4 E 4 67 973 3 @7')?'*<' ;3 9'*/3 3 '53 4: 2 '79 +3 26' 4)'*3 +'))+2? @33* :7))4: 2) 9 2*? /+263)9 952))/4*93/ 2 3? 964 9 2 :3=:33 9R72 3 93;3 2))(' ?3 /2 3? 4 2 ;2 '3 (' 4: ?3' '39 =+4 /47)? *4 @3 96)2/3? : 45 +3' 2@4?39 5 +47 3 /4*93* 4: +3 2796'/39 4 +3 7*'4* 4: +3 + 33 +'<+39 @3'*<9 '* +3 79/2* 3)'<'4* 76' 3 7*4 2*? '*3 ;2 +3(' 2))<2;3 =2(' 92;3 7;3* 29 2*? 3 5'*79$ 2 4E3* +2 3 (47 +4: +3 452* 356' 3 =47)? *3;3 :2?3 +2 '' 9 @47*?2 '39 =47)? *3;3 :2))/@2/E 94)4*< 29 3 64* ':: 9+47)? 547* 3 9 369 4: +3 26' 4) =' +3 9')3* ;' <'* '* +4*47 4: 3 <4?9 . +3 *253 4: 26' 4) =29 <';3* 4 +3 356)3 2*? : 45' ' 4 +3 2 63'27 +' '* /4*C 93R73*/3 4: 2 +752* +32?' :47*? @(' 3 =4 E53* 29 +3(' =3 3 ?'<J*< +3 :47*?2 '4*9 =+'/+ =29 '5?3/2(3? 2*? '/E)'*< =' + @)44?$ 2 9'<* +2 +'9 6)2/3B=29 ?39 '*3? 4 @3/453 +3 +32? 4: 3 =4)?

' +'* +'9 356)3 '* +3 /3))4: 76' 3 7*?3 < 47*? 3 '@())'*3 @44E9 =3 3 6 393 ;3?' * 7*E*4=* 4)? =452* +2? 4::3 3? 4 93)) +3 E'*< :''*3 @44E9 :4 + 33 +7*? 3? 6'3/39 4: <4)? 3'*< 32 3? =' + 9/4 * 9+3 @7 * + 33 2*? +3* + 33 54 3 2*? 32 3*3? 4 ?3C 9 4(' +3 4 +3 9 7*)399 9+3 3/3';3? 3 9253 6 '/3 :4 +35 =+'/+ 9+3 +2? 29E :4 2)) +3 E'*< 363* 3? 4: +3 '*/ 3?7+ (' =+'/+ +2?)49 +'5 +3 < 32 3 62 4: 2* ' 36)2/32@)3 3297 3 +3 6 46+3 399 <2;3 +'5 +3)29 + 33 @44E9 2*? ;2*'9+

+3 3A63?' '4* 2<2'*9 453 '2 =29 +3 @3<'**'*<B4: +3 =2 9 2<2'*9 +3 "4)9/'2*9 =+'/+ :')) +3 32)(' 2**2)9B 4: +3 367@{/' * +3 /4*R73 3? 3 '4 (' 2 R7'*'79 :47*?3? =4 /4)4*'39 '<*'2 2*? ' /3''

+3 6 '53;2) < 32 *399 4: 2@'" '9 9 ')) 2662 3* '* +3 =2))9 4: +3 /3)) 4: +3 356)3 4: 7*4 #'4*(9'79 92=' (3 54 3 /4*96'/7479''* +3 7'*9 4: +3 3A 3*9';3 =2)) @(' =+'/+ +3 /' (' 9 2*?'*< '* +3 6)2'*,' +2? @33* 97 47*?3? 2*? =+'/+ +2? @33* ?354)'9+ @(' 2 ?39 4(C '*< /4*R73 4 29 =3)) 29 '* +4J 4: 93;3 2) @7')?'*<9 =29 4*3 4: +3 +' (' 2 '* /' '39G +7 ' 9/4 *3? +3 ?3 3 5'*2 '4* 4: +3 /4*:3?3 2/(Y '* =+'/+ /' '39 :2 :'!45 3R72) '* 64=3 =3 3 3R72) '* ;4 39 Y 4 ?3< 2?3 +35C 93);39 3*/3 ' @3<2* B2* 4@9 '*2 3 =2 =' + 453 +3 /4* 3*?'*< /' '39 =3 3 4*)(' =3);3 5')39 262 'G 2*? +3 /47* (' @3 ='A +35 3*?7 3? 2)) +3 3;')9 4: 5')'C 2 (' 2;2<39 :4 (32 9 *4 3*? 4: =+'/+ =29 4 @3 :4 3C 933*'G :4 =' +'* +3' =2))9 @4 +=3 3 '*;'*/'@)3

3A 79 +3 (2* 09 94* 6 3 3*?3? 4 3@) +3 E'*< =+493 2*<3 +2? 2662 3*)(' @33* 6 4;4E3? @(' +'9 =2* 4*'*94)3*/3 /4*?35*3? +'5 4 2 ?'9< 2/3:7) 67*'9+C 53* 29 ': +3 +2? @33* +3 532*39 4: +'9 97@,3/ 9' ! 3 /253 4 +@ 2@'*39 7*?3 +3 529E 4: 2 :7<' ';3 +3 @)44?(' 52 E9 4: +'9 9 '639 2*? 9 ')) 54 3 +3 '*:2 72C '4* =+'/+ /4539 4;3 53* ?4453? 4 63 '9+ <2'*3? +'5 @3)'3: 2*? <44?=')) :' 9 +3)3? 2 @4?(' 4: ;4C)7* 33 9$ +3* 4469 =3 3 79 3? 4 +'9 /+2 <3 ;3 (' 3* 3 6 '93 97//33?3?$:4 @44 (' 2*? 94)?'3 9 =3 3 + 4=* '* +'9 =2(' 2 /3 2'* 2664'* 3? 6)2/39G 2*? +3 ?3)7?3? /' 'H3*9 2'93? +3 52* 7*?3 =+493 /4552*? +3('6 4B 5'9 +3593);39 +3 6)3295 39 4: 2 97//399:7) =2 4 +3 ?'/ 2 4 9+'6 +3)29 9 36 4: +'9 32/+3 (' =29 (3 4 /453 4*3 4: +3 4469 @3'*< +' 3)'*<9 ' =29 2 +2C H2 ?479 ;3* 7 3 4 463* 2 <2 3 3A 79 93* 4 29E +'9 :2 +3 '* =+2 =2(' +3 9+47)? ?3)';3 2@'" '* 4 +'9 +2*?9 2 R7'*'79 =29 '* +'9 <2 ?3* =+3* +3 3/3';3? +3 5 3993*<3 G +3 =2)E 2)4*< '* 9')3*/3 9 'E'*< 4::

F

@3 +32?9 4: +3 2))39 6466'39 =' + +'9 9 '/E 2*? ?'9B >5'9 +3 52*=' +47 2*2*9=3 *' +'9 +'* 3A 79 67 4 ?32 +u 4 @(' 532*9 4:2)93 /+2 <39 @2*'9+ 97/+ 4: +3 2@'*39 29 =3 3 2@)3 4 466493 +'5 (?'9 'C @7 '*< +3' :4 7*39 +3 67 /+29 62 '92*9 254*< +3)4=39 /)299$ 2*?' 2/R7' '*< +3 7*/4* 39 3? 7)3 @ 47<+ +3 /' (' 4 97@5' 4 +'9 :2 +3

7 +3 93/7 ' (' 4:7*'* 3 76 3? <44? :4 7*3 =29 ?'9 7 @3? @(' 2*2662))'*< 6 4?'<(' 93 63* / 2=)3? 47 : 45 +3 2) 2 '*' +3 4(2) 62)2/3 0ShJ 2*? 93'H3? 4*' +3 :)39+ @ 47<+ :4 92/ ':)/3 =29 +3 2<3 =+3*' +3 (+'2*' 4 2/)3 =29 '*' +3 +'<+39 367 3 ! +3 E'*< 93* +'9 94*9 ' 79 2*? 7*9 =' + /49)(' <': 9 4 #3)6+' 4)32 *' +3 ?2*<3 +2 53*2/3? +'5 +3 6 '39 399 =+493 +'* 9 <2;3 9 3*< + 2*? /4*:'?3*/3 4*)(' 4 +493 :4 3@4?'*<9 =+3 3@(' =3 2 3 4 3A6)4 3 2*? :'*? 47 47 =2(' + 47<+ +3 ?2 E*399 4:47 ?39 '*'39 =+')3 +3(' 5'9)3? +493 =+4 =3 3 =' +47 97/+ :33)'*<9 2*9=3 3? +2 +3 =47)? :2)) =+3*' 2 ?4< 9+47)? 9632E =' + 2 +752*' ;4'/3 Z If +3 63 94*' ?39'<*2 3? @(' @3 <4? =29 9 2*?'*< =' + +3 3*;4(9 '*' +3 356)3$ +2;'*< 6 46' '2 3? +'5 =' + +3 <': 4:2 <4)?3*' 9 '/E 3*/)493? 2*? /4*/32)3? '*' 2 +4))4=' =44?3*' 4*3 +3 9'9 3 4:E'*< 2 R7'*'79 =3??3? 4 7*'79 +2? @4 *3 =4 94*9 =+45 +3' :2 +3)3: @3+'*? 7*?3 2<3 +3 3)?3 =29 67 4 ?32 + @(' +3 (2* :4 +3 92E3 4:@'9 =32) +6 +3 (47*<3 7/'79 92;3? +'9)':3 @(' 2997 5'*< 2 9+4=' 4:9 76'?' (6 +3 2 3 =')? :'<9 2*? +4*3('J +3 452*9 +E3 4 +3

@ :/ "-' B .'02" 06" "5 !!". 1.1 "7" 8 60.71.-/ 08 ', 1 !00D 02"60.'-041', 87 50--)!1/'2.81:' ', 1 "!'".' 8'0 "
'# @*3 N 08*-2-' ,"-' " 51-' !18(1 "-' ', 1 ("2-1 06 ', 1 4 -- 08 '0 1!5,

Y (1.0/ :1 1 5 k08"."-/

P !) 82-/920'1:')*' "(.0) 2-/ N '8!'24'-1-1).2'24 921 6"(1)" 3 7.0--2!0-'1;' 41!!1 1:1)"' ,1.1 ("880"):'" ! @1! 1.' +"*P06 1;5.1-- 87 60!!*/ 8 "8 "71 ', "" ,"-' 80" !0-" '-' 5. 4 ' @1 - 45! ('*' 2.' !"872"71 ,"-' 80 +0.: 60.' ', 1 6.2 " 06 '! 1

*2 '4*9)44E 76?*2 52?52*2 92/ 3?2*? 2 R7'*'79J 2 +'<72 ?'2* 3*,4(3? +' '?'4 E'*952*0 :4 7*3 +' 7*'79 +3*/3 /2))3? 2 79 +2? 2//4562*'3? +3 (47*< 2 R7'* 4 D3)6+' +3*' +3 (47 + +2? 3A3C /7 3? +3' /45 5'99'4* +3(' '*R7' 3? 4: +3 4 2/)3 '*' +3' 4=*' +3)'2): =+4 =2 4 7)3 2 ')4 5 3 2: 3 +3' :2 +3 3 " '1 % 2*9=3 3? +3 6 '39 C 399 +3 6 '*/39 2< 33? 4 ?3/'?3 +3 52 3 @(')4 2*? 4 E336' ' !2 93/ 3 : 45 3A 79 7 79 '*' 7**'*< ?4=*' +3 +'))' :3))$ 2*? +' '69 67/+ +3 32 +' '*' +3 /3* 3 4: =+'/+ (+4' ' 9 6 '5' ';3 92*/ 72 (' 9 44?

+3 6 4?'<'39 2*? ? 3259 +2 29 +3 E'*<' 453 32<)39 +2 +2? @7') +3' *39 4*' 2 62)5' '*' +' <2 ?3*' +2? :)4=*' 47 4 :3 /+ :44?' 32*=+')3 2 :)4/E 4: ;7)C 7 39 /253 4 +3 *39 49 47 +3 7*:)3?<3? 32<)3 9 2*? ? 4;3 2=2(' +3 4)? @' ?9 4*' +3' 2 ?(' 3 7 * 3 ? 325 +2 =4 259'96 7*<: 45 4*3 9' 3 =3 3 @ 47<+ 4 +'5 @3:4 3 +3 2) 2 $ +2 +3 /+493 +3 :'*39 :4 +3 92/ ':'/3 +3 4 +3 679+ +'5 ?4=*'>=' + ' 9 +4 *9C 2 +3 9253 '53 +3 97*' /+2*<3? +'9 /47 93 2*? 7 *3? @2/E : 45 +3 39 4=2 ? +3 29 . 6 ;2'*' =29 +3 =2 *3? @(' +3 '* 3 6 3 3 9 4: ? 3259 2<2'*9 +3 52*' =+45 +3 ?3353? 9'56)3 29 2 9+336 *' ;2'*' ?'? +3 ;4'/3 4: +3 4 2/)3 /4*/7 =' + +3 *'<+)(' ;'9'4* %2 3 579 +2;3 ' 9 =2(

?32 +3 /' (' 4: +3 7 7)'2*9 3:793? 4 97@5' 4 +3 E'*<' 2*? =29 @39'3<3? @(' 2)2 <3 :4 /3 9 44? 64*' 2*' '*97)2 3? ;4)/2*'/ +')' =' + 9'?39 /7 9)'2 6)(' ?4=*' +3 4/E =+3 3 ' =29)4= =29 97 547* 3? @(' =2))9 4: 9R72 3 @)4/E9 4: 7:4 :4 399 4: +'9 E'*? =47)? +2;3 @33*' '56 3<:22@)3 3;3*' @(' +3 '56 4;3? 3*C <'*33 '*< 4: +493)2 3 '539 =+3*' +3 53/+2*'/2)' 2 9

+ !: 7'.11/ 2-1: 8 ("5. 6 ("' 08/ "- ' -'1;5!" 81:)*' (!"-'08' ,1 C10508 '-/5 /6.04 H08'1:1."' 8 (045". -08 '0' ,1 6 7- +, (, +1 1"'/ ',1*' ".1 "- 285"!"'")!1/ "- + !: 6.2 '- ".1 (045".1: + ', 7". :18 6.2 '-'06' ,1 -"41 D 8: ' P

'' 2-/ 920'1:')*' (1.0/ :1 @ 8"' ' A

=3 3 /2 '3? 4 63 :3/ '4* 29 +3 <': 9 4: <3*'79 2*? 4 2 4 (+2? @33*' @3:4 3$ 7*)399 4=3 9 /47)?' +2;3 @33*' @7') 4: +3!92533 +'<+ +' =' + +3 4/E 2*? ? ';3*' /)4933 763 4 9 :44 7 '* +493 ?2(9 3A/36 32/+3 ( )3* ' 9 5?' :25'*3 =29 +3 4*)(' 532*9 4: 3?7/'*< 26)2/3 =+'/+ /47)?' *3')'3 @3 9/2)3?' *4 7*?3 5'*3?' P 3*/3 +3 452*' 2 5(')2(''?)3 '*' ' 9 3* 9 @3:4 3 ?32' 7* ') +3 7 7)'2*9 9+47)?' +2;3 /4*9753?' +3' 6 4;'C 9'4*9

3 3' 29 +3 E'*<09 94*9 2*?' +3' '/479'*' 2 R7'*'79 =3 3 9' '*< 4;3 ' +3' '/769' 2 ?'967 3 2 493 2@47 ' +3 ;' 73 4: +3' ' =';39 +'9 /479'*' 9'7*2537' 4))2 '*79 : 45 4))2 '2 =+3 3 +3 ?=3)' 29 2 ?363*?3*' 6 '*/3 =29 +3 < 2*?94*' 4: 7*9 +3 3)?3 ' @ 4 +3 ' 4: +3 :' 9 2 R7'*'79' 2: 3 '=+493 ?32 +' 7/754 354;3?' 4 453 4 +'*< =29 ?4'*< '*' +3 :'3)?G' 94 +3(' 9 2'<+ =2(' 567* 3?' +3' ' +4 939 4 ;'9' ' +3' ' +4539 @(' 97 6 '93' ' 453 +3 6 '*/39939 =3 3 3;3)'*<B 2' 2 @2*R73 ' 97 C 47*?3?' @(' :)4=3 9 2*?' ='*3' % 45' +3*/3 +3 (47 +9 +29 3*3?' 4 4))2 '2$ =+3 3 2' +3)2 3 +47 ' 4: +3 *'<+ ' 7/ 3 '2 =29 96'**'*< 25'?' +3 /' /)3 4:+3 '+2*?52'?9 ' =29 *4 ' +3 @)44? +' 9 '*399' *4 ' +3 2;2 '/3 4: +3 (2* 9 4: 2* 'R7' (' +2 ' =29 +3 549' ? 32?:7) 3;')' 4 +3' ' 97@,3/ 96 ' ' =29' +2 ' =+2 943;3 ' 4@,3/ ' 3A/' 3?' +3' ' :'3 /3 6299'4*9' =+3 +3 ' 2 =':3' 2 52'?3*' 4 ' 2 @4(' ?32 +' =29 +3 4*)(' 93/7 ' (' : 45' 9+253' 7 2<39')'E3 +2 ' 97::3 3?' @(' 7/ 3 '2 +2663*3?' ?2')($,79 29 +3 + '9 '2*9 7*?3 ' +3 7 E'9+' 356' 3 2 3 3A6493?' 4 97/+' =' +47 ' 2*(' 6 4 3/ '4*$ 2*?' 2)=2(9 =3 3 94' @3:4 3 2*(' 4*3 +47<+ ' 4*' +3 6499'@')' (' 4: @ 32E'*< +3 2//7 93?' (4E3' 7 ' +3 ?27<+ 3 ' 4: '/'6' '*79 =29 : *4@)3 @' +$ 2*?' +'9 =29 +3 7'*' 4: +3 2 R7'*9 *:)253?

<' 71. 2-/ , -' 6"',1./ ! @1:' ',1.1' "-' 70@1.80.? @*/ ' ' ,"' -' '0' -"*/ ',1' 5014' .1!"'1:' ', -/ '0' 1;5!" 8' ,0+' 0!!"' 82-' "8:' 2(.1' "' ,"55181:' '0' .1- :1' ',1.1' ,2-' ,1.1' "7" 8' ' -' 1@ :18" ',"' ',1' 7182 81' 0!:' 60.4' 06' ',1' -'0.*' ,"-')118'5.1-1.@1:')*' @*/ P80")*' ,0-1' +,0' .140@1:' ',1 .' ")0:1' '0' 041

@(‘ 3/E)399f)79 ‘ 3A 79f 3 7 *3?JB +3f *3A ‘ ?2(‘ 4f 4))2 '2‘ 2*?f 2//4 ?'*<f 4f +3f '<+ 9f 4:‘ <3* ')3f +496' 2)' (‘ =29f)4?<3?f '*‘ +'9f E'*952*09f +4793‘ ‘ +3f ?32J‘ 4:‘ *'<+ ‘ +3f 3* 3 3?f 9=4 ?B'*B+2*?f '* 4f +3f 52 4*09f /+25@3 ‘ 2*?f @(‘ + 32 3*'*<f +2‘ +3f =47)?f)2(‘ 2‘ 9)2;3f =' +‘ +'9f + 42‘ /7 ‘ @39'?3f +3 ‘ @4?(‘ =47)?f 6 3 3*?f 4f +2;3f 2;3*<3?f +3 ‘ +79C @2*?09‘+4*47 ‘ 2*?f=47)?f 52E3f +3 ‘ 5354 (‘:4 ‘ 3;3 ‘)42 +C 9453f 4f +3f 4@,3/ ‘ 4:‘ +3 ‘)4;3‘ = 7*<f : 45‘ +3 ‘ =+2 ‘ +3f :32 ‘ 4:‘?32 +‘ /47)?f *4 ‘ 4@ 2'*

+4f 2: 3 ‘ ';(‘ /2*‘ 3))‘ 4:‘ 7/ 3 '209f ?3962' Z I.L‘ +3‘ @3947<+ ‘ +3 ‘ :2 +3 ‘ 2*?f +3 ‘ +79@2*?f 4f /453f 4f +3 $:4 ‘ +2 ‘ +4 '@)3f +'*<9f +2?f 2E3*‘ 6)2/3 ‘ 7/ 3 '79f /253‘ 2//4562*'3?f @(‘ ‘ "2)3 '79‘ =+4f 2: 3 =2 ?f <2'*3?f +3f *253f 4:‘ 7@)'/O)2$ 4))2 '*79‘ =' +‘ +3f 47 /29 ‘ 7C 79‘ +3(‘ :47*?f +3f ?'9/4*94)2 3f ='3f '*‘ +3f <2 @f 4:‘ 547 *'*<' 9' '*<f '*‘ 2f 2*/3f 4:‘ 94 4=‘ +3(‘ +32 ?f +3f 2)3f 4:‘ +3f / '53‘ 2*?f 9=4 3! 4f 2;3*<3f +3 ‘ ;3 ‘ +3f @4?(‘ 4:‘ 7/ 3 '2‘ 29f 4;3 ‘ 2f ;'/ '5 B‘ +3(‘ 3*3=3?f +3' ‘ ;4=‘ +3f 5453* ‘ =29f 2 ';3?f :4 ‘ 7 79f 4f /29 ‘ 4::‘ +'9f ?'9<7'93 ‘ 29f)(9939f + 3=‘ 4:‘ +3f ? 399f 4:‘ +3f @3<C <2 ‘ +3(‘ /2 '3?f +3f /4 693f '* 4f +3f 52 E3 6)2/3f 4:‘ 4))2 '2‘ +3f /' 'H3*9f 3*47*/3?f 2 R7'*'79‘ 2*?f 6 45'9 ‘ 4@3?'3*/3f 4f +3f ?3)';3 3 9‘ +3' ‘ (47*<f 53*‘ 2 3*?3?f +3f :7*3 J‘ 6 4/399'4*‘ 4f 453‘ ‘ 3 3f +3f <2 39f =3 3f /)493?‘ 2*?f +3f 6346)3f /4*;4E3?f @(‘ 7 79‘ 29f '@7*3f 4:‘ +3f 3)3 39‘))‘ 2*E9f =3 3f '*:)2532?f @(‘ 2‘ 9'*<)3f :33)'*<' ' +‘ 4*3f ;4'/3f +3f ?3/ 33f 4:‘ +3f /' 'H3*9f ?3BJ 6493?f +3f)29 ‘ E'*< : 45‘ +'9f + 4*3‘ 2*?f 6 4*47*/3?f 93*C 3*/3f 4:‘ @2*'9+53* ‘ 2<2'*9 ‘ +'5‘ 2*?f +'9f :25')(‘ 7))'2‘ :)3?f : 45‘ +3f /' (‘ 7*+7 6 +3f 6346)3f)3:‘ +3 ‘ 67*'9+53* ‘ 4‘ +3f 96' ' 9f 4:‘ +493f =+45‘ 9+3f +2?f 57 ?3 3?

‘ +3f '?'<9f 4:‘ +3f '*97 3/ '4* ‘ +3f E'*<‘ @ 4E3f 76‘ =' +‘ 2‘ :3=‘ :4))4=3 9f :4 ‘ 453‘ 7 ‘ +3f /' (‘ =29f 9+7

‘ 08*- 2-‘ .1!"'1-‘ '‘ + ',‘ 7.1"'‘ : -(.15"8(1-/ "8:‘6".‘ +0.-1‘ '‘ -‘ 40.1‘ 8'1.1-' 87f '0‘ (045".1‘ @ :J‘ 6 81!*f +.027,'‘)2'‘ ,1".'!1--‘ 8"..'"' @1‘S "-'‘ ‘ N = # + ',‘','‘,1‘80)!1‘"((028" 8‘ @*/ +, (,‘ (.0+8-‘ , -‘6 .-'‘)00D/' ',1‘ 4"-'1.5 1(1‘06‘, -‘ +,0!1‘ , -'0.*

3-,

<2'*9 ' +'5 ' 32*=+')3 7 ''9 52 /+ ' =' +' 9453 ;4B)7* 63 2!@('X'J(B=2(' 4' +3!/256')' @'/E3 '*<9 =' +' +3 62 '/'2*J9' 3;3 (' = 4*<' 2)' ?'9 79 ! =29 :4 <4 3*G :'3 r3* 7 '39 4:' +3 2 5(' /4*:' 53?' +3 ?3/ 33 4:' +3 /7 '39' +3 ?36493?' E'*<' =' +'+'9 94*9 ' 79 2*?' 7*9' 44E 3:7<3 '*' 23 3' =+3 3 452*' 3A')39 =3 3 3* ')3?' 4' 93)3 29 /' 'H3*9.' 3A 79 =3*' @2/E' 4' 2@''' 29 4' +'9 4=*' 6 '*/'62)' (' 3)4*<' +'9 2/' 4:B27?2/' (' 2::4 ?3?' +3 : '3*?9 4:' +493 =+4 +2?' 63 '9+ '@(' +'9 532*9' +3 4664 7*' (' 4:' 2E'*<' ;3*<32*/3 :4 ' +3' '@)44?

' 7/3 =29 /4*/)7?3?' =' +' ?32$ 2*?' +3 2 5(' 3 7 *3?' 4' 453' +3 /3* 7 '39' @(' 2' :4 52)' ?3/ 33 '*' +3 :')3?' 4:' 2 9' /4*:' 53?*' +3 394)7 '4*' 4:' +3 /7 '39 2*?' 4:' +3 2 5('$ @2*'9+' 2 R7'*'79 2*?' +'9 ?3 39 3?' +4793 :4 ' 3;3 $:4 ' 3;3 ' 2@4)'9+' +3 ?'<*' (' 4:' E'*<$ 2*?' 47)2=3?' 3;3 (' 4*3 =+4 9+47)?' ?2 3 4 : 253 2 ='9+' 4:' 7)'*<' 29 E'*<' 2 ' 453' +'9 =29 9=4 *' 4' @(' +3 =+4)3 *2 '4*' :4 ' +3593);39 2*?' +3' ' 649 3 ' (' +3)2=9 4:' E'*<' 3 ;'79 =3 3 339 2@)'9+ G @4*?2<3 :4 ' ?3@' =29 2<2'*' 6 4+'@' 3?G +3 '<+ ' 4:' +3 6)3@3'2*9 4' 29935@)3 2//4 ?B ' '*<' 4' +3' ' '@39 2*?' 3<'4*9 =29 3/4<*'93?G 2*?' 29 +3 9253 /4?3 +2?' 6 39/ '@3?' +3 4(2)' 64=3 ' =29 3* 79 3?' 4' =4 53*' :4 ' +3 3 5' 4:' 2' (32 ' +3 /3* 7 '39 /+493 7 79 2*?' 4))2 '*79!/4*97)9G +3 /7 '39 '*;39 3?' +35' =' +' +3 $)

% 45' 23 3' =+3 3 +3 @2*'9+' 6 '*/3 +2?' 4*)(' :47*?' 2' 3 32 ' +3 362' 3?' 4' 2 R7'*'' ' 3 3' 2*?' 4' +3 "3'3* '*39, +3 4::3 3?' +3 ?'9 '/ 9 =+'/+' 453 +2?' /4*G R73 3?' : 45' +35' 79/2*' 35@2992?4 9 =3 3 93*' 4' ?352*?' +'9 39 4 2 '4*' : 45' +3 93*2 3$ 4 ' 2 ')329 ' +2 ' +3(' 9+47)?' @3 3964*9'@)3 :4 ' +'9 6 463 (' 2*?' +2 ' 4:' 2))' =+4 +2?')3:' +3' ' +4539 4' :4))4=' +'5 G +393 =3 3 *753 479 2*?' +3 535@3 9 4:' 64=3 :7)' :25')'39' '3

A' 11'55' ' N

,"'' ',1*' +1.1' -0' (08- :1.1:' 8' ',1' '.": ' 08/ -'1@ :18"6.04' ', -' "4087' 0',1.' 7.028:-/ ',"' 8' ',1!"((028'-' 06' ',1')"''!1-' ',1' 04"8'14 7."8'-' "551".' "-' "' -15"."'1')0:*' 11' ',1' '1;' '0' 80'1'

/7 '39V.I Y :4 +3 ?3/'9'4* 39 3?,;' + +35 I 2L =+2 =29 /4*:'9/2 3? =3* 4 +3 39 2 39!4: +3 ,@7 <+3 9 $J 3C 94);3? 4 <';3 76 +3 6 463 (+'9 2:'@ ?2? +3 35+2 BJ 92?4 9 '53B 4 3A/' 3 2 /4*96' 2/('*=+'/+ +3.'"J' 3))"' J =' + +3' ' 9'9 3 09 /+')? 3* +3 =4 94*9 4: 7 79' 2*?' +3 R7'))"' =+4 =3 3 2E'* 4 4))2 '*79' =3 3 '*;4);3?' 2)4*<=' + 52*('7 +3 9' 2*(' 3< 3 3? +3)499 4: +2')'/3*/3 Q:4 +3' ';'/39' =+'/+ +3' @' + 2*? /4**3A'4*9 <2;3 +35 7*?3' +3 2 R7'*9G *4' 2 :3= 52(' 63 +269 +2;3 :47*? +3)'@3 '39 4: +3 6)3@3'2*9 54 3 < 2 '*< +2* 2)) +3 5'9?33?9 4: +3 (2* * +4*39' 9)2;3' =+4 63 /3';3? +2' 5'9/+'3: =29 @ 3='*<' @3/253 2* 7*4@C 93 ;3? 32 =' *399 4: +3')29' /4*:3 3*/3' :4 =+'/+ +3 /456)'/39 +2? 53' '* 2 ?2 E /+25@3 G :3= 445 9 '*?'3 452*+47939 +2? 2*(')'<+ 3A/36' =+3* +3 ?44' =29 463*' * +'9 '*:4 52 '4* +3 /4*96' 2 4 9 =3 3 93'H3?' 2*? 32)(' '* +3 54 *'*<' =+3* +3 /4*97)9 =3 3 2?5'C *'9 3 '*<B ,79 '/3 '* +3 45' '75' 25'? +3 29935@)3? /' 'H3*9' =3 3 @ 47<+ @3:4 3 +35 7 79 /4*?35*3? +'9 94*9 4 ?32 +' '* +'9 /262/' (' 4:' 2 :2 +3 :'G45 =+493 93* 3*/3 +3 3 =29 *4 26632)G!9 +3 52**3' 4:' '*:)'/ '*<' ' +3 ?3 3 5'*3?2//4 ?'*< 4 +'9 ?7 (' 29 /4*97 +3 4 +3 / '5'*2)9' 29 62 '/'2*9' +2? +3 '<+' 4:' 26632)'*< 4 +3 /7 '39')' '97/+' 2 93* 3*/3: 45' 2 :2 +3 ' 52?3 =32E*399 '56499'@)3 G +3(' =3 3 2)@3+32?3?

+3 2< 3353* 4 <';3 76 +3 6 463 (' =29 2**7))3? @(' +'9 2 356' 4 :453* 3294* ' @3/253 /)32' 44 +2' : 33?45' /47)? *4' @3 93/7 3)('39 2@)'9+' 3A/36' @(' +3 :'?3)' (' 4:' +3 /4554*2) (' +3 /+2 3)9 4:' +3 2 R7'*9 =3 3 2@2*?4*3? 4 +3 54@ 4 6)7*?3 G +3' ')2*?3? 39C 2 39 2*? +3 4(2) ?3539*39 =3 3 62 /3)3? 47' 254*< +3 6)3@3'2*9G +3 :'3)? @3 =33* +3 /' (' 2*? +3 ';3' =29 /4*B! 93/ 2 3? 4 2 9' +3 :2 +3 '4:' 453' 2 ;39' /253 4+G

$?I' &'' I',

I +3 ;3 ('6+ 293 ', L , 0 ''56)'39 +2'' =29 /4*C :'9/2 3? :4' +3 , . 33 *4 3 \

4 2E3 +3 9+32;39 93353?2 9'*'6 +3(=3 3 + 4=*''* 4 +3 ';3 =+'/+''9 ;3 (9+2))4='*'97553 (7**'*< 2<2'*9 32/+ 4 +3 +3' /47 93 =29 /+3/E'$ 2*? +3('2/0 /757)2 3?94 29 4:4 5' +3:47*?2 '4*'4:2*' '9)2*?'=+'/+' 93;3*' <3*3 2 '4*9 2: 3 @3/253 +3 932 4:' +3 6'?27B '2*'<4?

+3 =+4)3 2 R7'*'2*' +4793 =29@2*'9+ ;3*' 4)B)2 '*79 +2? 4)2(?4=*'+'9 4::'/3 2*? 4')32;3 453' 3 ?'?*4',4'*' +3 3*35('@7'?'3?2' 2;'*'75' '"2)3 '79 =29 2664'* 3?F*'+'9 9 32?

')2 <3 2 5(4:'"3'3* '*39 2*? 2 R7'*'2*9 2?;2*/3?' ='+' +3 2 R7'*9' +3 452*9 52 /+"47' 4 533' +35' +3 79/2*' /2;2) (=29 +32?3? @(' 7*9 2 R7'*'79' +3 452*' @(' 7 79' 4 +' +3 <3*3 2)9 <2))46' 4*' @3:4 3 +g)3<'4*9' 2*?3*/47* 3 3?G @4 +' :3))' 54 2))(' =47*?3?' +3*' +3 '*:2* (44E 76 +3 @2)3' 2*? :47<+' ')' *'<+' 62 3? +35' 4 +' 2 5'39 =3 3 3R72))(' =4 *' 47 $ (3' *3' +3' =47)?' 4=*' '93):' ;2*R7'9+ ' 5'?*'<+' +4=3;3' +3('@4 +' +32 ?' +3 ;4'/3 4:' +g =44?B <3*'79 47' 4:' +3 *3'<+@47 '*< :4 39' 4:' 9'2' ?3/)2 '*< +2' +3 ;'/4 ('@3)4*<3?' 4 +3 452*9$:4' 4*3 54 3 4:' +3 79/2*9 +2?:2))3*' '=29 4*3 4:' +3 ;4'/39@('=+'/+' 62*'/ 3 47 9 =3 3 96 32?' +3 79/2*9 44E :)'<+' +3*' +3 ?32?' =3 3 /47* 3?' 3)3;3*' +4792*?' + 33 +7*' ? 3?' 79/2*9 =3 3)('*< 4*' +3:'3)?'$ +3 452*9=3 3 :3=3' @('4*3.' '"2)3 '79 3 7 *3?' 4 +3 /' ('*' '0 756+' *' +3 *3A' ?2('+3 94)35*'H3?' +3 4@93R7'39 4:' 7 79' +3 52 4*9 547 *3?' 2 (32' :4' +'5' 29 :4' 2' :' +3 ' +3 367@)'/' 3 3/ 3?' 2 @ 4*H3 9 2 73 4 +'5'*' +3 26' 4)' =' +'2'? 2=*'9=4 ?' '*' +3 5'?9' 4:' +3 93;3*' E'*<9:

"2)3 '79B ?3)2(3?' 6 4/7 '*< +3 3)3/ '4*' 4:' 2' 97//39C 94' 4 7 79' 2*?' =29 54 34;3' @7')?'*< 2' 9 4*3 +4793 4*' +3 46 4:' +3 "3)'2' =+3 3 7))79 49 ')'79 +2?

>' H!2'".(,/'H2)!!(0!'('F'

'' 08' "-- 2-/'6- ' ? H!2'".(,/ .2''('

39'?:3? Y *32 % 2*/39/2 452*2 : 45 +3 %4 75 ' +2? +3)44E 4: 2 /29)3 +'9 3A/' 3? 2 9796'?4* +2 +3 2'532? 2 797 6'*< W/'*<)(64=3 '9 '6,'4/3*/3 E36 +'5 7*/4*9/'479 4: +'9 =+3* 4)? 4: ' +3 9 46 +3 @7')?'*< B +3 6346)3 29+253? 2*? 63*' 3* < 2* 3? +'5 2 6'3/3 4: < 47*? 2 +3 :44 4: +3 29/3*: 76 +3 "3)'2 2*? 29 2 63 52*3* 52 E 4: +3' ' <': ' +3 6 ';')3<3 4:+2;'*< +'9 ?44 9 463*' @2/E' '* 4 +3 9 33 .

+3 4@,3/ 4: "2)3 '79 '* ='9+'*< 4 352'* 2)4*3 '* +3 /4*97)2 3 =29 +2 +3 5'<+ ' *4 +2;3 2 /4))3<73 =+493 46649' '4* =47)? @3 2* '*9763 2@)3 4@9 2/)3 4 +=2 +'5 '* 3*2/ '*<)2=9 :4 39 2'*'*< +3 /4*97)2 64=3 =' +'* :'A @47*?9$ 97/+ 29J=' + 3<2 ? 4 +3 3<2) +3 4 '<'* 4: =+'/+)2(' @3(4*? +3 2<3 4: = ' 3* 4 ?'*2*/39 +2? 4*)(' 3A'9 3? @(' /79 45 2*? +2? 4: 3* @33* 2*9< 39E 3 2/E*4=)3?<3? +2 +3 /7 '39 =3 3 +3 947 /3 4:+'9 64=3 2*? +2 +3 /4*97)9 4=3?+452<3 4 +3 52,39 (' 4: +2 2993 5@)(' @(B)4=3 '*< +3 :29/39 @3:4 3 ' '$:4 =+'/+ 2/ +:3 3/3';3? +3 *253 4: $# *)'E3 52**3 ' =29 2* 2/E*4=)3?<353* 4: +3 '<+ 4: +3 6)3@3'2*9 4 26632) 4 +3 '@7*2) 4: +3' ' 4=* ?3 : 45 93* 3*/39 4: /4 64 2) 67*'9+53* '6 4*47*/3? @(' +3 /4*97) 4* +3 9 3*< + 4: +'9 6)3*2 (' 27 +4 ' (=+3* ' =29 93)3? +2 +3*/3:4 =2 ? +3 3 9+47)? @3 *4 2A3 '* +3 @7*?)3 4: 4?9 /2 '3? @3:4 3 +'5 =' +C '* +3 /' (9 944* 29 +3 "2)3 '2*)2=9 =3 3 629 7@)'/O)2 2*9:3 3? +3 :29/39 4 6H 7/ 3 '79 29 +'9 93*'4 7/ 3:'79 ?'? *4)';3 4 +3 3*? 4: +3 (32 'G ' =29 /)493? @(' +'9 97//3994 4 2 '79 =+4 2 ' 9 3AC 6' 2 '4* =29 /2))3? 2 93/4*? '53! 4 +3 /4*97)2 3 2)4*< =' + "2)3 '79

 32)479(' =29 3A/' 3? @3 =33* +3 =4 /4))g<739 4='*< 4 +3 ?39' 3 4: 32/+ 4)32;3 2* 3*?7 '*< 5354 '2) 4: +'9 *253 ! +3 26' 4)'*3 356)3 =)''/+ =29 '*/456)3 3 =+3* 2 R7'*'79 =29 ? ';3* : 45 +3 + 4*3 +2? @33*

:'*'9+ 7*?3 +3 /4*97)9$ 2*? ' +2? @33*? ?3/'?3? @( )4 +2 4 2 '79 9+47)? ?3?'/2 3 ' +3 5453* =+3* +3 =2 < 296'*< +3 ?44 649 2*? 2@47 4 6 4 *47*/3 +3 94)35 *=4 ?9 "2)3 '79 +3 /4*97)0 @ 4 +3 /253 4 +'5 =' + +393 :2)93 '?'*<9 4: 94 4=- 7 6")
=4 ? 4:)253* 2 '4*=47)? +2;3 @ 4E3*4:)% +3 /3 354*(4 2 '79 :' 5 29 7 79 52?3 2*9=3 9 " # +79 +3 2//456)'9+ +3 ?3?'/2 '4*$ 2*? +'9 *253 =29 32? 4* +3 3* 2@)2 7 3 4: +3 64 '/4 7* ') +3 ?39 7/ '4*4: +3 356)3 '* +3 '53 4: ())2 +3 '?39 4: 36 35@3 4*=+'/+ +3 /4*93/ 2 3? ' :4 53? +3 /4553*/353* 4: +3 3 2 :4 E336'*< 2//47* 4: =+'/+ 2 *2') =29 ? ';3* '* 4* +3 9253 ?2(4:3;3 ((32

54*< +3 =4 E9 4:2 =' + =+'/+ +3)29 E'*< 532* 4 ?3/4 2 3 +'9 356)3 =29 2 :47 +4 93? /+2''4 4:@2E3? /)2(?39'<*3? :4 +3 46 4: +3 63?'53*)''9 6'3/3 =+'/+ =29 4 @3 3A3/7 3? @(2* 2 '9 2 "3'' 9=3))3? 47 94 6 4?'<'479)('* +3 :' 3 +2 ' =29 *3/39 92 (4 @ 32E 463* +3 :7 *2/3 '* 4 ?3 4 2E3 ' 47 7/+ 2 52 ;3) =47)? +2;3 @33*? ?3353? 4:7*3R7';4/2) '564 3;3* 254*< 2 6346)3)399 :25')'2 =' + +3 =2(9 4:?39 '*(+2* +3 79/2*9 //4 ?'*<)(+3 "3'3* '*39 3:793? 4 ?3)';3 76 +3 /+2 '4 4 +3 452*9$ 6 3 3*?'*< +2 ' +2? *4 @33*? 52?3 :4 +3 9 2 3 @7 :4 2 R7'*'79" +3 <4?9 +4=3;3 =47)? *4 2))4=5 453 4 +3 4@+3? 4: 2 =4 E =+'/+ +3(+2? 67 649 9+47)? @3 2 4E3*? 4: +3 :2 3 #7 '*< +3 *3A ' /3*9'2* <2539 2 "3'' +3 +4 939 +2 =4* +3 6 'H3 ?2 3? ;'4B)3*)(2=2(4 453 2*? 2 +3 :44 4: +3 26' 4) *32 +3 (+3 *253 4:=+'/+ /253 : 45 +'9 79/2* ?29+ +3' ? ';3)':3)399 4 +3 < 47*? %4 3@4?'*< +2 2)'E3 5'9:4 7*3 =47)? 7 * 2)) +3'

:39 ';2)9 '* 4 547 *'*< +3 "3'3* '*39 =3 3 :2'* 4 45B
6)(=' + +3 452* 6346)3
+3 +47<+ 4: @3'*< '*?3@ 3? 4 +3 (2* :4 +'9
356)3 +3 /+493* 932 4: +3 +'<+39 <4?9 2*?)4*<
@3:4 3 +3 '53 =+3* ' 97 629 +2 2 #3)6+" '* '/+39
+3 549 96)3*?'? 4 *253* 4: 453 =29 367<*2* 4
+3 :33)'*<9 4: +3)2 3 452*9 . 933 53? 4 +35
44 "- ': +3 +266(9'<*9 4: +3 :7 7 3 =+'/+ 52*':39 3?
+3 593);39 =+')3 +3 @7')?'*< =29 6 362 '*< /47)? 4*)(
@3 3;32)3? 29 ': +3 6 46+3 '/ @44E9 =+'/+ =3 3 4 <7'?3
+3 367@)'/ '* '539 4: < 32 35@2 29953* /47)? 4*)(
@3 ;47/+92:3? 4 4*3 =+4 +2? :47*? :2;47 =' + +3 <4?9
3*/3 +3)26*< +3 :47*?2 '4*9 4: +3 26' 4) 4<3 +3
=' + +3 453*9 4: 2 7*';3 92) 356' 3 2*? 4: 9 3 3 *' (
=3 3 299'<*3? @(52*(+3 ;'9' 4: +3 '@() @(9453
+47<+ @7 2 :3= 4 +3 :2 +3 2 R7'*'79 '9/79
2)'3 2<39 =3 3 4:2 ?'::3 3* =2(4: +'*E'*< 4 +35
' =29 *4 9 75@)'*<B)4/E +2 +3 +'<+3 64=3 9 9+47)?
9+3= :2;47 3;3* 4 2 36 4@2 3 =+4 =29 4@93 ;2* 4:
+3' 93 ;!'/3 7* ') +3 53297 3 4: +'9 <7') =29 :'))3?$
4 +2 +3(9+47)?J 2))4= 97/+ 2 52* 4 /4*;3(+3'
@)399'*<9 4 2 6346)3 =+45 +3( )4;3? 29 +3 6346)3
4 97::3 @3/2793 +3 <4?9 +3593);39 +2? *4 +3 64=3
4:/4552*?'*< 2 7 3 4 3*?4=' 9 7)3 9 =' + ;' 73L
* 2) +3 2//47* 9 +4=3;3 +3 @7')?'*< 4: +3 26' 4)
'9 /4**3/ 3? @(2 ;4= =' + +3 2@'*3 =2 4: +3 :' 9
2 R7'*'79 @7 +3 4)?3)3<3*? /4*:'*3? ' 93): 4 +'9'.
J '3 549)('*< 4: 2)) +3 2**2)'9 9 "2)3 '79 * '29

$ H!2'".(,/H2)! (0! (,1 7.028:+0.D 06 '! 1 !1718: -
',1 -"41 8 1-'2-/ @ "'2418" 50.'"3 08!* ": !1.18" -'0.* -
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25','1 (,". 0'3 "8: ",-"!.1":*)118 1.1('1:/+,18','1 ,0.-1-.28
"+"*3 " ','1 - 7,"06 ','1*-'"8:-' !!
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G P'1 H "8:/ ! /06 251.)2-/
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@(' 2'>/)7 5 9(' 2*9:3 ' : 45' +3' 2?' '4*' 2@47 ' 73992' 4B' 5 3 '2 ' :2@ '/2 3?' +3' 9 4 (' +2 ' E'*<' '9/79' 4@ 2'*3?' +3' 532*9' 4:' 3A3/7 '*<' +3' 97@9 7/ '4*9' : 45' +3' 964')9' 4:' +3' 7*E*4=*' 2 '*' 4=*' 4:' 6'4)23' *' 4 ?3 ' +2 ' +3' =4 E' 5'<+ ' *4 ' /4* '*73' 2 ' 2' 9 2*?' + 47<+' +3' =+4)3' 3'<*' 4:' 3 ;'79' 7))'79 ' 2*?' (3 ' +2 ' ' ' 5'<+ ' *4 ' 9335' +2 ' +3' 6346)3' +2?' @33*' 466 39 ' 7*?3 ' +'5 ' 2' :7 +3 ' 3A63?'3* ' =29' ?3;'93?' 63 +269' @(' +3' 925 3' = ' 3 G! 3 C ;'79' =29' 92'?' 4' +2;3' /2 '3?' 4*' +3' @7')?'*<' @(' 3 5 6)4('*<' +3')2@47 ' 4:' +3' 2))'39

+3' 9' 3' 4:' +3' 26' 4)'*3' 3 5 6)3' =29' 4*' +3')4=3 ' 97 5 5 ' ' 4:' +3' 2 63'2*' +')) ' *4=' /2))3?' 7 ' 9 ' =+'/+' '9' 9362 2 3?' : 45' +3' ' ' =+3 3' ' ' 9 ' [' 9 2*?9 ' @(' 2' +4))4=' 2 ' 6 393* ' 2)5 49 ' ' 5 63 /36 '@)3' ' +3 3' =29' *4' :)2 ' 97 :2/3' +3 3')2 <3' 3*47<+G' 94' 4*3' =29' <2'*3?' 29' 4*' 47* ' 4 '2 ' @(')3;3)'*<' +3' 632E9 ' 2*?' @(' =2))'*<' '*' 2' /3 2'*' 962/3 ' 2*?' +3*' :'))'*<' ' ' 76$ =4 E9' =+'/+' '*' /49 ' 4:')2@47 ' =3 3' *4 ' '*:3 '4 ' 4' +3' @7')?'*<' 4:!' +3' 3 5 6)3 ' *' +'9' 2 32' 2' @29353* ' 4:' /4*9'?3 2@)3' +'<+ +' =29' 3 3/ 3?' 3'<+ ' +7*? 3?' :33 ' '*' /4 5 6299G ' ' =29' *32)(' 2*' 3R7')2 3 2)' R72? 2*<)3' +3')3*< +' *4 ' @3'*<' :': 33*' :33 ' < 32 3 ' +2*' +3' @ 32? +' +3' '6)3' 92*/ 72 (' 4:' 76' 3 ' 7*4 ' 2*?' '*3 ;2 ' 7*?3 *32 +' +3' 9253' 44:' =' +' 62 (B' =2))9' 4' 9362 2 3' +35 ' =29' 97 47*?3?' @(' 4=9' 4:' 6'))2 9$ 2' '6)3' /4)4**2?3' 4*' +3' 947 +' 2' ?47@)3' 4*3' 4*' +3' 4 +3 ' 9'?39. I ' 3(4*?' 2' ?47@' +3' =+4)3' 3 5 6)3' =29' @7') ' 4:' & +3' 6'))2 9' =3 3' 4:'@)4/E9 ' =+'/+' /2*' +2 ?)(' +2;3' @33*' 3;3*' 5 29E ' =' +' 9 7//4G' *4' 5 2 @)3' 9+4*3' : 45' ' 9' =2))9G +3' ?44 9' =3 3' /3 2'*)(' 4:'@ 299$ 94' 63 +269' =29' +3' 44 ' 997 3?)(' ' ' =29' *4 ' 2')399' *4@)3' @7')?'*<' +2*' +3

2 '' H 8*/ Q ' ' F?' +H$' ' 5 ' ' "/
?' + &' ' ' ' B ?% 7 &'' & &'' '$ $ &C' ' &% $
' T , (,' 8" 4 1' -11 4 -' '0') 1' '"' (0..25' 08' '
Ú , -' @ 1+' +"-' ', "'' 06' "!!' ', 1' 0!: 1.' "8 :') 1''1.' '0507."5, 1.-')160.1' ".: 8 ?' '0' 4 1' '' +"-' 6 .-'' 4 5".'1 :') *' .' ' 11', -' -G -1.'"' 08' 08' ', -' '14 5!1' 8' ', 1' 1.! 8' ."8-"(' 08-' 60.'
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3 5 6)39 4: c 9 7 5 6 5 2,39 '/ '* ' 9 9'5 6)3 < 2*?37 +3 /47 93 4: 2<39 2*? +3 ;'/ 4 '39 4: + 33 +7*? 3? (32 9 < 2?72))('2 2(3? ' ' '* 2)) +2 =29 96)3*?'?,,2*? 6 3/'479 0 +3 2 '9 9 =+4 @7') 2*? 35@3))'9+ +3 26' 4) =3 3 93* :4 47 4: 7 '2 +3 93;3 ' (4: +3 2*/'3* 2)'2* 6 '*/'6)3 =+'/+ =47)? *4 4)3 2 3 2*(/4 64 32) 36 3C 93* 2 '4*9 4: +3 <4?9 +2? 2) 32?(@33* 4;3 64=3 3? @(+3 '*:)73*/3 4: 33/3

+3 2?' '4* +2 +3 ?775;' 9 =+4 +2? +3 /2 3 4: +3 '@())'*3 @44E9!J =3 3 '*9 ' 7 3? @(+3)29 2 B R7'*'79 '9 3;'?3*)(?3 ';3? : 45 +3 64* ':'/2) 4 27<7C 2) 3/4 ?9)'E3 +3 9 2 353* 9 /4*/3 *'*< +3 39 2@)'9+C 53* 4: +3 6 '39)(4:) /39 @(752 +3* =3)44E 2 ' +'9 4 '/2))(' =47)? 9335 +2 +3 4 '<'*2) 2664'* 53* 4: 2 ?775;' 2 3 2E3* : 45 254*< +3 62 '/'2*9 579 +2;3 @33* 6 '4 4 +3 463*'*< 4: +3 "39 2) 6 '39 +44? 2*? 4: +3 93*2 3 4 +3 +' ? '@3 %4 7*R739 '4*2@)(' '9 '56 4@2@)3 +2 2: 3 +2 '53 ' =4'?? +3 3A/)7?3? : 45 +3 /79 4?(4: :4 3'* 4@,3/ 9 4: 3)'<'479 3;3 3*/3 =+3 3'* +3 6)3@3'2*9 =3 3 2))4=3? 4 2E3 62 944*3 +2* '* +3 /4*97)2 3 2*? +3 +'<+3 /4))3<39 4: 6 '39 9C 2*? +3 '56 4@2@')' ('9 +'<+ 3*3? @(+3 :2/ +2 +3 2 R7'*9 @3)4*<3? 4 +2 '@3 7 =+3* +3 R739C '4*)'39 @3 =33* +3 :2 +3 2*? 94* +'9 4@,3/ '4* <439 44 :2 C 2*? +3)3993 +47939 52(6499'@)(+2;3 @33* 36 393* 3? @(4*3 4: +3 ?775;' 9 ,79 29 +a ')39 =3 3 @(4*3 4: +3 =4 =+4 +3)? +3 4 +3 6 '39)(4::'/39

+2 +3 '@())'*3 4 2/)39 E36 '* +3 26' 4) 5J?3 76 + 33 @44E9 2*? /4*93R73*)(+2 @(+3 3*37 4: +3)3<3*? *'*3 =3 3 @ 47<+ 4 +3 E'*< 9335 9 4 :4)C)4= : 45 +3 3A6 399'4* +2 +3 E3363 9 4: +35 =3 3 /+2 <3? 4)44E '* 4 +3 '@())'*3 @44E9 $ '* 46649' '4*

!!- ';(B

% 161.18(1-'0 ',1 5"--"71-+, (,-51"D 06 ',1)*!! 8*0."(!1- 4"*1"- !*)1 6028: 8 "). (2-/)! C."1(1: " .! 5 60 !

X

4)'*(09 9 2 353* + 2 =4 4: +35 =3 3 @7 * 2*? 4*)(4*3 3 2'*3? : 3 +3(+2? @33** /4*97 53? '* +3 '53 4: ())2 +3 <72 ?'2*9 4: +35 52(+2;3 ;3*B 7 3? 4 3))=+2 6 3;'479)(/47)? *4 / 499 +3')'69 4 =3 52(92:3)(2?46 "2 409 2//47* +2 +3(=3 3T = 3** 4** 62)5B)32;39$ 2*?62)('* ;3 939 62)('* 9(5@4)'/2) +'3 4<)(6+'/9J l +2 9 2 353* '9 +3)399 9796'/'479 29 +'9 52 3 '2) :4 = '*<'9 9/2 /3)(53*C '4*3? 3)93=+3 3 254*< +3 2*/'3* 9)'*(2E39 :4 < 2* 3? +2 +3(=3 3 = 3** 4** 626(79$ @3/2793 +3 +47<+ 2))@44E9=3 3 94 @3:4 3 +3 '*;3* '4** 4: 62 /+C 53* +'9 '9 4:*4 ,;3'<+ 2<2'*9 2** 3A6 399 2993 '4*$ 2*? +3 3 '9 < 32 6)279'@')' ('* +3 '* 3 6 3 2 '4** 4: +3 9/+4)'29 =+4 97<<39 9 +2 +3)32;39 4: +3 7532** '@()=3 3 ?39'<*3? @(+3)32 *3? 643 29 2** 2))79'4** 4 +3 :4 5 4: +3 4)? 452*! '@())'*3 @44E9 +3' *2 7 3 @3'*< 97/+ =3 /2 /+ 2 <)'5693 4: +3 52**3 4: /4*97) '*< +35 4 +2;3 932 /+ 2: 3 2 62992<3 2*? 266)'3? ' =47)? +2;3 @33** 6 39756 7479 /2*+2 ?)(@3 ?47@ 3? +2 +3(=3 3 3:3 3? 4 '* +3 9253 =2(29 29 3 ** *2 '4*9 3:3 4 +3 4 2** 2*? 4 2:'H$ 2*? 29 52*(+ '9 '2*9 +4=3;3 9 '/)(' +29 @33** :4 @'?C ?3* 933E /47*93) 4: +3 '@)3 @(463*'*< ' 4 356)4(C '*< 2 ;3 93B@4A +3 :4 5 4: +3 *?'2** 62)5B)32;39 793? '* = ' '*<' 4@)4*<9 /7 4 +3 9253 9'H3 =29=3))97' 3? :4 +3' @3'*< 9@7:')3? 2*? ? 2=** +79 +3 6 2/ '/3 2 23*39 3 =29 4? 2=2 2@)3

+3 R739 '4** +4=3;3 =+3 +3 +393 4 2/)39 /4* 2'*3?

B

1.@ 2-/ 08 B 8 !! j '"8:'@ B 8 60! -5"!4"1 8'1. :24 80' -/ 8'1.:24 -(.)1)"" 1.408)2- ,1* 4"** ,"@1)118 !1"@1-0 6', 1 6 81. -0." 06 5"!4 6.04 6. ("/ :.1-" 60.', 1 52.50-1 "!1@18'-8 ("-1 06 811:', 1 :+".6 5"!4-/+, (,7.0+-0 ")28G :"8'!** 8 (!*/4"**,"@1)118 2-1: ,1 51'"!-4 06', 1/ *."(2G -"8-,1+-', "', 1 5."(' (1', 1.1 +"-'0 -(."'(,4".D-08 !1"@1-/"- "' '! 4-"8:8 7*5" '0 +.'1 08 50'-,1.:-?)0',+1.1 4"'1. "!-', "'(0- 80', 87

6 392<39 4: /45'*< 3;3* 9 4 53 3)(?' 3/ '4*9 =+2 =29
4 @3 ?4*3 :4 /4*/')'2 '*< 4 266329'*< +3 <4?9 Y ?'C
3/ '4*9 7*?3 9 44? 4 +3 2?? 39 4 +3 62 '/7)2 /293
=+'/+)3? 4 +3 '*R7' (Y '9 63 6)3A'*< 4='*< 4 +3
5(9 3 (=+'/+ 3*;3)46 +393 @44E9 :'A05 +3 '53 =+3*
2 R7'*'79 /4*?35*3? 2 ?775;' 4 97::3 +3 67*'9+53*
4: 2 62 '/'?3 :4 @)2@@'*<. +3 /4552*? +4=3;3 4
93*? :4 9/7)26'79 : 45 6'?27 79: /2* 4*)(+2;3 @33*
/4*;3(3? '* 2* 4 2/)3 =+'/+ 964E3 4: 2 639 ')3*/3 +2
'9 94 92(:4 3 4)? ' #7 '*< +^,'3 '4? /456 3+^*?3?
'* +3 352'*'*< @44E9 4: ';(+3 67 6493 4: /4*97) '*<
+393 @44E9 =29 *3;3 29 ' =29 '* 394 '*< 4 2 33E
4 2/)3 4 <3)'<+ /4*/3 *'*<:7 7 3 3;3* 9$ @7 4)325
=+2 =4 9+'6 =29 3R7' 3? @(+3 <4?9 =+3* +3(+2?
52*':39 3? +3' = 2 + @(*2 '4*2) /2)25' '39 4 @(6 4C
?'<'39)) +3 '*9 7/ '4* 44 3/4 ?3? '9 '* +3 9253
96' '$ 6 39/ '@'*<=+2 +4*47 '9 4 @3 62'? 4 +3 ?3' '39
2) 32?(3/4<*'H3? 4 =+2 *3='4*39 2 3 4 @3 '564 3?
: 45 2@ 42? +3 4 2/)39 '* +3 39 4 3? /4))3/ '4* 2 3
47 4: +3 R739 '4* +3 3 * +3 32)'3 2<39 =+3 3 =3
+2;3 2**2)9 +3 3 '9 4*)(2 9'*<)3 A256)3 4: 2 ?':C
:3 3* E'*?'6 7*?3 +3 (32 mm 53* '4* '9 52?3 4: 2
6 4+'@' '4* @(+3 '@() 4 / 499 +3 27 ''9 =' + 2*
2 53? :4 /3 7 '' ' '9 7 3)('*/4*/3';2@)3 +2 97/+
2 93/ 3 9+47)? +2;3 @3/453 *4 4 '479 : +3 *753 479
'@())'*3 4 2/)39 /' /7)2 '*< 254*< +3 33E9 52*(2
+2 '53 3)2 3? 4 453$ +3 452*9 +3593);39 3C
<2 ?3? +35 =' + 3963/ 29 2E'* 4 +3' 4=*'6 2*? 549
6 4@2@)(4*3 4: +393 +2? @33* +32 ? 4: @(+3)3<2 39
93* @(+3 93*2 3 4 +3 2 5(4: * 2*)'79 52(

A 08*-2-/ N ? "!1.2- "; 42-/ /

P6 @*/ L B

  ,"@1 80" 0@1.!00D" ',1 5"--"71 8 @*/ 8 ?)2"+,"" +17," ("8 %1 "'"(,"'0 -'"1418'-02" 06',0-1 '41-f 1-:1-"8 0."(!1 81@1.-51"D-+ ',' ',"":0+8.7," : -'8('81-- ,1 081 +,(,' 8 (1.0J-' 41-60.)":"8 1;51: '08 '0 7*5'/ ("4h 02" 06',1.1-'0.1:-1' AA @*/;;;@4

m

4 =' +9 2?'*< +2;3 @33* 2*/'3* 976649'*< +2 ' ?'?
4 9632E 4: 2(62 '/7)2 9 2 3 2*? =29 53 3)(266)'3?
2 +3 '53 4 +3 452*9 499'@)(+3 6 46+3 52(
+2;3 +2? +3 (?'2* E'*<9 '* +'9 3(3 +3 3 +2? @33*
2* 2@7*?2*/3 4: <3*'3 2)9 +4=3;3 ?7 '*< +3 =4 6 3C
/3?'*< /3* 7 '39 =+4 5'<+ +2;3 :7 *'9@ 4//29'4* :4
97/+ ?'99729';39 +2 +3 452* '@())'*3 4 2/)39 /253
: 45 2* 4*'2* 947 /3 2) +47<+ +3 *3'<+@47 '*< 4=*
4: 752)'E3='93 @429 3? 4: +3 6 46+3 399 '9 /)32)(
6 4;3? @(+3' 3*,4'*'*<! +3 =4 9+'6 4: +3 ?232* 54C
+3 [I.$ 29 =3)) 29 @(+3 5'99'4* 4 (+ 23 :4 +3
92E3 4: 39 4 '*< +3 @44E9 2: 3 +3' ?39 7/ '4*

2? +3 32)(452*9 @33* 29 '<*4 2* 4: +3 33E
)2*<72<3 29 '9 7972))(' 9766493? +3' /4*97) '*< 33E
4 2/)39 =47)? +2;3 @33* *3A 4 '56499'@)3$ 2*? (3 *4B
@4?(+29 3;3 R739 '4*3? +2 +493 4: +3 '@() =3 3
= ' 3*'* 33E 4 '9 +'9 53 3)(4 @3 '*:3 3? :45
62992<39 7*3R7';4/2))('56)('*< ' $ +3 9 2 353* +2
=4 33E '* 3 6 3 3 9 =3 3 93* :4 '*' 4 ?3 4 @3 R7' 3
97 3 4: +3 532*'*<.. 2547* 9 4 2* 3A6 399 39 '54*(
39'?39 +2? *4 +3 4 2/)39 @33* /456493? '* 33E
+3A2533 9 ' =47)? *3;3 +2;3 @33* @3)'3;3? +2 +3(
5'<+ @3 36)2/3? @(+493 =+'/+ =3 3 4 @3 :47*? '*
+3 33E /' '39 7 +3 452*9 =3 3 :2 : 45 @3'*<
7*2/R75* 3? =' + 33E +3 33E @44E9 ?7< 76
2)4*< =' + +493 4* +3 64* ':'/2))2= '* +3 6 3 3*?3?
< 2;3 4: 752 579 2 2)) 3;3* 9 +2;3 @33* @7 '3?
+3 3 '* ;3 (32)('539 * +3 :': + /3* 7 (+3 4C
52* 3*;4(2 2 3* 75 964E3 33E +47<+ @7 ' '563 C
:3/)(G 2*? =3 3 +3 :2/ 4 +3 ='93 +4= =47)? 93;3 2)
35'*3* 452*9 +2;3 @33* 2@)3 4 = ' 3 33E 2)) 2
4*/3 '* +3 2<3 4: 2**'@2) @3:4 3 +3 63 '4? =+3* 33E

" @*/ LL L "..Q '00 ,1!: ',1 .*',.K" U)*! '0)1
',1 081 ',"" @ - '1: ".92 8 2-? 1.@ 2-/ 08 I @ N

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)' 3 2 7 3 =29 '* 4?7/3? L +3 33E 4 '<'* 4: +3 4 2B /)39 '9)'E3='93 6)2'* : 45 =+2: +3(3*,4'* +3('* ;2 '2@)(4 ?2'*3? +3 =4 9+'6 4: 3/'2* r?3' '39 2*? +3 3@(+3(5 79 +2;3 3A3 3? 2 < 32 '*:)73*/3 4* +3 3)'<'4* 4: +3 452*9 '* 9766 399'* =+2 'V +2? ?3 ';3? : 45 +3 2@'*39 2*? 79/2*9 4 92/ ':'/3 2/ /4 ?'*< 4 33E ' 39 =29 +3 J925 3 +'*< 29 92/ ':'/'*< @(+3 /45 52*?4: +3 '@())'*3 4 2/)396 2*? 3;3 (E3363 4: +393 @44E9 =29 29 97/+ 2 6 '39 4: 64))4

'9 73 ':' +493 # % ' '@(4'A)3 4: =+'/+ 54 3 +2* 4*/3 '* 93294*9 4: 63 ')479 =2 :2 3 =4 33E9 2*? =4 27)9 2 52* 2*? =452* 4: 32/+ 6346)3 =3 3 @7 '3? 2);3 =3 3 +3 '@()+*3 @44E9 29)7 2 /+ /4* /3';39 +3* =+2 =3* @(+2 *253 254*<! +3 4 52*9 /2* *3;3 +2;3 /453 : 45 2 33E 947 /3 4 =')' ?3*(+2 ';(=+4 4* 2)'E3 +4 '@)3 4//29'4* 3A6 399)(53* '4*9 +3 # ' <';39 +2 ')3 '* 2*4 +3 6)2/3 4 +3 '@())'*3 @44E9 '*?33? +3 '9 =2 2* 3? '* ?4'*< 94$:4 +3(44 =3 3 # % ')' *' :2/ 2)4*<' = ' + +393 33E @44E9 +3 3 =3 3 6 393 ;3? '* +3 26' 4) 7*?3 +3 <72 ? 4: +3 9253 ?775;' 9 +3 79/2* 6 46+3/'39 4: +3 *(56+ (<43 2*? +3 +45396 7*< 4*39 4: +3 2 /''..$ +493 4:)@7*2 44 4)@7*32 4: '@7 2*? =+4 E*4=9 +4=' 52*(4 +3 9 4: +3 9253 94 L +393 =3 3 2)' # % ' & 2*? 3;3 (79/2* /' (9335 9 4 +2;3!649939 97/+ 3 E*4=' 4: +3 "3'3* '*3 4*39 : 45 +3' +2;'*< /4**3/ 3? +3 ?39 '*(4: 453 2*? "3'" =' + +3)3 '*< 4:: +3)@2*')2E3 4=' ':')@'532 =+4 =29 2//47* 3? 254*< +3 '@()9 =29 +3 6 46+3 399 =+4 2?;'93? +2 :2 3 9+47)? ' +2;3

".(1! / (

K 1.@ 2-/ 08 8 @ B , 0-1 06 ', 1 ".(, ":' 80")118 5!"(1:' ', 1.1 +, 18 ', 1)"'!1 06 "88"1 +"-' 6028:' 8 ', 14 ? @*/ LL

;' :+ +? &' ' ?' ' ' ,' 'B HI +C %7 C+? H& 7C ?$C ?7 H&?7+C \ &4&" '$ 7" '7?+ &" ? +F $ &C +?' & 7 'B 2=7 7 '77 =7 $CC7? + $ ' /

6 45'9" +3' 6499399'4*' 4:' 453' 4' 27)9' 4 ' 33E9 ' 9+47)?' @3' '/E ' 29' '*' +3' 32 53* ' 4:' +3' 3*;4(9' : 45' 6" 2 ' 72?79'7 2')7 2 /+09' 5'9 2E3' =47)?' +3' 3AC /792@)3

' 6 '5' ';3' '539' 63 +269' 3;3 (' 33E' /' (' +2?' 6 sB$ 6+3/'39' 4:' +3' 9253' E'?' =' +' 2)' +393 ' @(' 2' '@()' 4 ' 2' 2/'9 ' 4 ' 9453' 4 +3 ' 944 +92(3 '$ =+'/+' =3 3' 6 393 ;3?' '*' ' 9' 2/ 464)'9 ' '*' +3' +4)'39 ' 4:' ' 9' 356)39'G 29' =29' +3' /293' 7*?3 ' +3' '9'9 2 '?9 ' 2*?' 2: 3 =2 ?' 7*?3 ' +3' +3C *'2*' 367@)'/ ' 3 3' 2<2'*' =3' ?'9/4;3 ' +3' 4 '<'*2)' /4 C 3964*?3*/3' @3 =33*' +3' 452*' '*9 ' 7 '4*9' 2*?' +3' 33E$' =+'/+' =29' +'??3*' : 45' 9'<+ ' =+3*' 32/+' 4:' +3' =4' *2 '4*9' +3' 33E9' +4=3;3 ')4*<' @3:4 3' +3' 452*9 ' ?3;3)46 ' +3' 9 4*<' 63/7)'2 ' '39' 4:' +3' ' *2 '4*2)' /+2 2/C 3 ' ';'*<' 4 2/)39')'E3' +493' '*' 33/3 ' =+3 3' +3' ?3' (' 2*9=3 3?' +3' '*R7' 3 ' + 47<+' +3' 547 +' 4:' 2*' '*96' 3?' 5'*'9 3 ' ?'?' *4 ' 3A'9 ' 254*<' 2*(' 2)'2*' 6346)3'G +3*/3' +3' 5'99'4*' 4' #3)6+' ' 54*<' +3' 67)'2*9' 4*B 547* ' 2 <2*79' +3' E'*? 3?' 33E' /79 45' 6 3;2')3?' 4:' 32 *'*<' 2' 6 46+3 '/' ;'9'4*' @(' 9)336'*<' '*' +3' 356)3' 2: 3 ' 4::3 '*<' 76' 2' 92/ ':'/3'$ @7 ' ' ' =29' '*' 2' 33E' ' 4:' 2)/+29' .

+3' 452*' 4 2/)39' =3 3' *4 ' 2//399'@)3' 4' 6 ';2 3' '*C ?';'?72)9 ' 3' =+4' 947<+ ' :4 ' 97/+' <7'?2*/3' : 45' +3' +32;3*)(' 64=3 9 ' =3* ' 4' 2/*39 3' 4' +3' 356)3' 4:' %4 C 7*2'$ +3' <4??399'=+4' ?'963*9 ' =+2 3;3 ' =29' 963/'2)' 2*?' 6 4;'?3* '2)'$ =+4' ?';3 3?' +3' /+2*/39' 4:' 2*' '*?';'?72)0')':3' : 45' +3' /47 93' 6 39/ '@3?' 2*?' ?3 3 5'*3?' :4 ' +'5' @(' %2 3' 2 ' +'9' @' +' 2*?' @(' +'9' 4=*' /+2 2/ 3 '$ =+4' ?3C)2(3?' 4 ' +29 3*3?' +'9' ,47 *3(' 2)4*<' ' '$ +3' ?445' 4:' +3' '*?';'?72)' @3'*<' 2' 62 '/7)2 ' 96+3 3' 4:' 6499'@')' (' 4 ?2'*3?' @(' %2 3' =' +'*' +3' :2 ' 54 3' 3A 3*9';3' 2*<3' 4:' 6499'C @')' (' 52 E ' 47 ' @(' 2 7 3' +3')4 9' 6 393 ;3?' 2 ' 23B *39 3' =3 3' 9 '/E9' 4 ' 9)'69' 4:' 42E' @42 ?' =' +' 2*/'3* ' /+2C 2/ 3 9' < 2;3*' 4*' +35 ' ' *4@)352*' 4:' +2 ' /' (' =29' 92'?' 4' +2;3' :47*?' +35' '*' +3' '*9'?3' 4:' 2' 4/E' '*' 2

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ʻ "ʻ 3)2 3?ʻ +3ʻ 2)3ʻ 4:ʻ +3ʻ)29ʻE'*<@ʻ<)4 ('ʻ2*?ʻ4:ʻ +'9ʻ:2))ʻ *4ʻ)399ʻ *2E3?)('ʻ +2*ʻ 'ʻ 5 79ʻ+2;3ʻ9 44?ʻ '*ʻ +493ʻ @2)?ʻ **2)9ʻ +3ʻ 9/2* '*399ʻ 4:ʻ =+'/+ʻ 52?3ʻ '/3 4ʻ +'*Eʻ 'ʻ +'9ʻ ?7 (ʻ 2*?ʻ'*?7/3?ʻ ';(ʻ 4ʻ + 4=ʻ2ʻ '/+ʻ? 399ʻ4;3ʻ +3ʻ 9 4 (ʻ4:ʻ 453ʻ +2ʻ=+'/+ʻ'9ʻ+2 54*'479ʻ'*ʻ2ʻ*2C '4*2)ʻ 2*?ʻ 643 '/2)ʻ +'9 4 '2*ʻ =4'??ʻ @3ʻ 47ʻ4:ʻ 7*3ʻ'*ʻ2ʻ =4 Eʻ= ' 3*ʻ 54 3ʻ +2*ʻ 3'<+ 33*ʻ+7*? 3?ʻ (32 9ʻ)2 3ʻ@(ʻ 2ʻ:4 3'*3ʻ2*?ʻ2ʻ/ ' '/ʻ '9ʻ 29Eʻ'9ʻ 4ʻ 39 4 3ʻ +3ʻ2*/'3*ʻ 2?' '4*ʻ 4ʻ :')ʻ ' ʻ 76ʻ@(ʻ 37*' '*<ʻ 97/+ʻ9/2 3 3?ʻ:32 7 39ʻ 29ʻ 9 '))ʻ 352'*ʻ @7ʻ+2;3ʻ @33*ʻ)3:ʻ47ʻ'*ʻ +2ʻ/)299'/2)ʻ *2 2';3ʻ=+'/+ʻ+29ʻ@3/453ʻ +3ʻ/7 3*ʻ4*3ʻ2*?ʻ4ʻ:33ʻ' ʻ :45ʻ+3ʻ 3:'*353* 9ʻ=' +ʻ=+'/+ʻ)32 *'*<ʻ+29ʻ?'9:'<7 3?ʻ' ʻ +2ʻ?'9 '*/ʻ2*?)';3)(ʻ;'3=ʻ=+'/+ʻ+'9ʻ 36 393* 2 '4*ʻ2)94ʻ 9+47)?ʻ2'5ʻ 4ʻ<';3ʻ 9+47)?ʻ@3ʻ*4 +'*<ʻ54 3ʻ +2*ʻ +3ʻ/)32ʻ 2*?ʻ)';3)(ʻ63 /36 '4*ʻ4:ʻ +3ʻ47)'*39ʻ4:ʻ +3ʻ4)?ʻ)49ʻ6435ʻ 2?ʻ2ʻ9'56)3ʻ*2 2';3ʻ@('ʻ%2@'79ʻ4ʻ 2 4ʻ@33*ʻ6 393 ;3? ʻ=47)?ʻ53 3)('ʻ+2;3ʻ 2*9)2 3?ʻ' ʻ +2;3ʻ2**3Aʻ +3ʻ 35Bʻ *2*ʻ9ʻ4:ʻ4 +3ʻ2//47* 9ʻ2*?ʻ +3*ʻ2??3?ʻ2ʻ/45 53* 2 ('ʻ 97/+ʻ29ʻʻ+2;3ʻ*4=ʻ4ʻ= ' 3ʻ4*ʻ5('ʻ4=*ʻ 3A

3 2'*ʻ 29ʻ ' ʻ'9ʻ +2ʻ 453ʻ 649939ʻ '@())'*3ʻ @44E9ʻ 2*?ʻ(3ʻ*4*3ʻ/2*ʻ 3))ʻ=+4ʻ= 4 3ʻ +35ʻ4ʻ92('ʻ54 3ʻ +2*ʻ +2ʻ +3ʻ '@()ʻ'9ʻ2ʻ643 '/2)ʻ/ 32 '4*$ ' ʻ '9ʻ *4ʻ)399ʻ'*?7C @' 2@)3ʻ +2ʻ 2 R '*'79ʻ=29ʻ2ʻ (2* ʻ2*?ʻ +3ʻ)29ʻE'*<ʻ4:ʻ 453ʻ 4ʻ/ ' '/'95ʻ'9ʻ2@)3ʻ4ʻ6'3 /3ʻ:7 +3ʻ+2*ʻ+'9ʻ4ʻ 4ʻ93;3ʻ+3ʻ+'9 4 '/2)ʻ 4*/+39ʻ:45ʻ+3ʻ6435G 2))ʻ' ʻ/2*ʻ ?4ʻ'9ʻ 4ʻ9+3=ʻ=+2ʻ'9ʻ +3ʻ9 2 3ʻ4:ʻ +3ʻ/293

=' +ˢ +gˢ 97@93R73*ˢ 79/2*ˢ =2 9ˢ 'gˢ ?3 ';3?ˢ : 45ˢ +3ˢ 64* ':'/2)ˢ)2=@44E9$ˢ =+3 3ˢ ' ˢ =2gˢ @ 47<+ˢ :4 =2 ?ˢ 2gˢ +3ˢ 4 '<'*ˢ 4:ˢ +3ˢ '<+ˢ /4*:3 3?ˢ @(ˢ +3ˢ /45 57*' (ˢ 4:ˢ : 2*/+'93ˢ 4ˢ <4ˢ 2*?ˢ 93)3ˢ +3 3ˢ 2gˢ 2ˢ /' 'H3*

+3ˢ 9 4 (ˢ 4:ˢ 3A 7gˢ 2*?ˢ +3ˢ 6346)3ˢ 4:ˢ 2@'"ˢ 'gˢ 62 /+ˢ 76ˢ : 45ˢ =4ˢ =3))BE*4=*ˢ 4*39ˢ '*ˢ 3 4?4 79.ˢ =' +47ˢ 2*(ˢ *4;3)ˢ '*;3* '4*ˢ 39'?39ˢ ' ˢ 'gˢ R7' 3ˢ '5 6499'@)3ˢ +2ˢ 2@'"ˢ 9+47)?ˢ +2;3ˢ :2))3*ˢ '* 4ˢ +3ˢ +2*?9ˢ 4:ˢ +3ˢ 452*ˢ E'*<ˢ @(ˢ 32/+3 (ˢ 2?ˢ 97/+ˢ @33*ˢ +3ˢ /293ˢ *4ˢ 4*3 Yˢ =')ˢ *4ˢ 92(ˢ *4ˢ (2*ˢ @7ˢ *4ˢ 94;3 2'*ˢ '*ˢ 2* 'R7' (Yˢ =47)?ˢ +2;3ˢ < 2* 3?ˢ +3ˢ 452*ˢ : 2*/+'93ˢ 4ˢ +3ˢ 2@'*39ˢ 2*?ˢ +2;3ˢ 962 3?ˢ +35ˢ 2)ˢ /+29 '9353*ˢ @(ˢ +3ˢ 9/47 <3ˢ 4:ˢ =2 $ˢ 2gˢ 2 R7'*'7gˢ 'Vˢ 92'?ˢ 4ˢ +2;3ˢ ?4*3ˢ @(ˢ #'4*(9'7gˢ +'5 93):ˢZ ˢ *ˢ :2/ˢ +3ˢ 3/4 ?ˢ 4:ˢ +'gˢ /4*/399'4*ˢ 4ˢ +35ˢ =2gˢ /4* 2'*3?ˢ '*ˢ +3ˢ 32 (ˢ =' +ˢ 2@'' 0=+'/+ˢ '*ˢ +'gˢ ?2(gˢ =2gˢ 9 ')ˢ 4ˢ @3ˢ 32?ˢ '*ˢ +3ˢ 356)3ˢ 4:ˢ #'7gˢ %'?' 9ˢ ˢ =2gˢ 62'* 3?ˢ 4*ˢ 2ˢ 9+'3)?ˢ /293?ˢ =' +ˢ +3ˢ 9E'*ˢ 4:ˢ +3ˢ @7))ˢ 9)2'*ˢ 2ˢ +3ˢ 2 ':'/2 '4*ˢ 4:ˢ +3ˢ)32<73ˢ .ˢ +3ˢ ;3 (ˢ 3A'9 3*/3ˢ 4:ˢ 2ˢ 32 (ˢ +47<+ˢ 3/4*/')2@)3ˢ =' +ˢ +3ˢ /293ˢ 4:ˢ 2ˢ 97*03*?3ˢ 67 gˢ +3ˢ :4 /'@)3ˢ 4//762 '4*ˢ 47ˢ 4:ˢ +3ˢ R739 '4*

+3ˢ 964')9ˢ =' +ˢ +3ˢ 6 4?7/3ˢ 4:ˢ =+'/+ˢ 2 R7'*'7gˢ 7*?3 44Eˢ +3ˢ @7')?'*<ˢ 4:ˢ +3ˢ 26' 4)ˢ +3ˢ ' +3ˢ 4:ˢ =+2ˢ =2gˢ 2E3*ˢ 2ˢ 45^ '2ˢ =3 3ˢ 39 '52 3?ˢ @(ˢ %2@'7gˢ 2ˢ :4 (ˢ 2)3* gˢ ..ˢ +3 9ˢ '94ˢ :4ˢ '*9 2*/3ˢ +2;3ˢ 9 2 3?ˢ +3ˢ =+4)3ˢ 4:ˢ =+'/+ˢ +2ˢ 975ˢ =2gˢ +3ˢ ' +3 Y :47ˢ +7*? 3?

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ˢ 'ˢ -ˢ 0+ 87ˢ '0ˢ 081ˢ 06ˢ ',1ˢ 4"8*ˢ (0..25' 08-ˢ 8ˢ 02.ˢ .1(1 @1:ˢ 1: G ' 08-/ ',"ˢ +1ˢ 80+ˢ 6 8:ˢ J 0 -ˢ 8-'1":ˢ 06ˢ J, 0 -ˢ 8ˢ @*/ ˢ / /"7" 8-"ˢ ',1ˢ 4"82-(. 5'-ˢ ,027,/+,18ˢ ,1ˢ +.0'1/ˢ 4"*ˢ 80ˢ !0871.ˢ ,"@1ˢ)118ˢ 7181."!!*ˢ D80+8/',"ˢ ',1ˢ '"! "8ˢ '"!18"ˢ +1 7,1:ˢ "ˢ ,28:.1:ˢ 5028:-/ -0',"ˢ ˢ '"!18'-ˢ +1.1ˢ 192"!ˢ '0ˢ ˢ5028:-3-'! ˢ ,1ˢ (02!:ˢ 81@1.ˢ ,"@1ˢ 51.(1 @1:ˢ -2(,ˢ "8ˢ 180.402-ˢ : 61.18(1ˢ)1'+118ˢ ',0-1ˢ '+0ˢ -24-ˢ "-ˢ , -ˢ 1;5.1-- 08-ˢ 45!*ˢ H041' 8"1ˢ 4"82) "1ˢ@ ;ˢ 8ˢ 628:"418'"ˢ -2551: '"@1.1ˢ 0ˢ 4"7 -ˢ ") 0=(.1: :1. 4 .92"4ˢ H -08/92ˢ L ˢ 4 !! "ˢ 508:0".718'ˢ -150- '"ˢ 8ˢ1".8ˢ .14ˢ -(.) '?-24ˢ 4"4ˢ 51(28 "1ˢ d1921ˢ 1;ˢ 28 2-ˢ '2.8ˢ 2.) -ˢ 5."1:"ˢ -51."8:"4/1"ˢ 82!ˢ ! 2-/81ˢ ,0.24ˢ 92 :14ˢ 4"78 6(18' "1ˢ 051.24/628:"418'"ˢ 808ˢ 1;ˢ -251."'2."4ˢ U*ˢ ("880"ˢ ,"@1ˢ)118ˢ ', 8D 87ˢ 06ˢ -4"!!1.ˢ '"!18'-

2)3* 9 -:4 (+4792*?647*?94:9');3 Y 4+2;3@33*
4*)(+3 3* +562 $ 944+2 +3 352'*'*<*'*3579+2;3
@33*<';3*76 4+3 94)?'3 9 3;3 (4*34:+35 3/3';'*<
:';3 647*?9 4:9');3 4 :';3 +4792*?2939 2(4*/3
4* +3='*< +3(?4*4 9 46+3 3 +393X 2)3* 9
32 2 5'))'4 9 3)'*< =3 3:'4 +'*< 54 3 +2* +3<4)?S
2*?9');3 :47*?'* 453 '2 2))+3 39 4:+3 6 463 (
=29 2@2*?4*3? 4 6)7*?3 ! '9=4 +352 E'*< +2
+3;3 (27 +4 =+4@2*'9@ 2))52 ;3)9 47 4:+'9+'9 4 (
44E*4 4::3*93 2 +'9 3*4 5479 2@97 ?' (7 3;3* +3
75@3 <';3 @(%2@'79 47 4:=+'/+ +'9 :'/ '4* =29
967* @3 2(9 ' 9 :'/ ' '479 4 '<'* %4 29975'*< +2 +3
@44 (2: 3 +3 6 '*/'6)3 4:+3 2*/'3* /4*:3?3 2/'39 =29
?';'?3? @3 =33* +3 452*9 2 '*9 2*? 3 *'/2*9 +3
' +3 4* +3=+4)3 ':+3 452* 9+2 3 !29 :4 (2)3* 9
2547* 3? 4 + '/3 29 57/+ +2 '9 4 =3);3 '539 3*
2)3* 9 =+3 3 2//4 ?'*<)(=3:'*? +3;3 (9253 *75@3 9
4* =+'/+ +393 532< 3:'/ '4*9 2 3 63 63 72))(' '*<'*< +3
/+2*<39.J 2(453 '2 /2**4 !6499'@)(+2;3 @33* ?3
9 4(3? 7*?3 2 R7'*'79 :4 2 :3=(32 9 2: 3 '* +3
:' 9 2<3 4:+3 /4*97)2 3 ' ' '9 @39'3<3? 2*? 2E3* .2*?
' 9 < 32 *399 *4 ?47@ '9 3* ' 3)(:2@7)479 52(@3
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',"8',1 '' (3"8:')1'+118',1-1"8:',1'"! "8',1:661.18(1+"-
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T ',-2(,)"..1881--'06 8@18'08 : :'',0-1"88"! -'-/ 8
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'2"!!*.151"'87',14-1!@1-/<8:'."8-61..87 8(:18'-'6.04'081'
-'0.*'0'"80',1./',"',1'-50 !-'+08'6.04',1' "'8-/80" 8'"!! "8(1'
+',',14/"',1')"'!1'06'!!17 !!2-/02"06'+, (,-50 !-'7"41-'+1.1'
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4 5 3 '2 ' 2 * ? +2 ! 2 ' / ' (' 94 /2))3? 4 * / 3 9 44? 4 * +3 +'))9 2 ' +3 3?<3 4: +3 5 6 ' ' /3 2'*)(' ?'? *4 ' 9 2 *? =' +'* +3 5 Y =+3 3 ' ' +29 4*)(' @33* 6)2/3?' @3/2793 *4 2/3 4: ' ' =29 4 @3$:47*?' 2*? ' ' 5 '<+ ' +3 3 +2;3 @33* 9=2))4=3? 76 '* +3 ? 32 (' 9=2 5 6$ Y :4 ' +3 2 ' ' 5 7 9 ' 0 2)=2(9 +2;3 @33* 639 ')3* '2) ' : +'9 54 299 =29 3;3 ' /7) ';2 3? 5 4 3 ='?3)(' +2* 2 ' 6 393* ' ' ' /2* 4*)(' +2;3 @33* 29 +3 397) ' 4: 97//399:7) ' ? 2'*2<3 2*? 2: 3 ' 2)) +3 3A 3* ' /2* *3;3 ' +2;3 @33* /4*9'?3 2@)3 ' %4 ' ' ' '9 *4 ' 2 6'3/3 4:)2*? +2 ' +29 @33* '*7*?2 3? +3 /4 3/ ' ;'3=' '9 ' +2 ' +3 3 =29 4*/3 2* 2 5 4: +3 932 +3 3 9 3 /+'*< '* @3+'*? 92*?B+'))9 ' 2*? +2 ' ' +29 < 2?72))(' @33* /4*;3 3? '* 4 2 9=2 5 6 ?7 '*< =+'/+ 6 4/399 +4=C 3;3 ' 5 2*(' +4792*? (32 9 54 3 +2;3 629 ' 2=2(' +2* =29 9766493? @(' +493 =+4 '5 2<'*3? +2 ' +'9 =29 +3 9 2 3 4: +'*<9 '* +3 '5 39 4: +3 ?(9933 ' 9+2)) +3 32: 3 ' <';3 5 (' 3294*9 :4 ' /4*,3/ 7 '*< +2 ' +3 3 =29 *4 73992 /2))3? 4 5 3 '2 ' 2*? +2 ' +3 4*)(' 4=* 4: +2 ' *2 5 3 =29 73992 7 7*/2 .

+79 '* +3 9 4 (' 4: +'9 E'*< 2<2'* '@4 + +3 47)'*3 2*? ?3 2')9 ;2*'9+ @3:4 3 79 ' =+3* =3 67 ' +3 5 ' 4 +3 39 ' ;3* +'9 2@4)'9+'*< +3 '*9 ' 7 '4*9 4: 3 ;'79 /2*C *4 ' @3 2? 5 ' 3? =' +47 ')' 5 ' 2 '4* ' %4 ' +3 2 2(' 4: +3 2 5 (' '* 5 2*'6)39 '5 6)'39 +3 3A'9 3*/3 4: /3* 7 '39 2*? 2 /3*979 2*? 94 ?4 +3 /4 5 ' '2 +3)? '5 5 3?'2 3)(' 2: 3 ' +'9 :2)

9 4 +3 62 '/7)2 ' 2/ 9 4: (2**(' 4)? 4: 2 R7'*'79 ' +3(' 2 3 +3 5 4 3 9796'/'479 ' @3/2793 ' =+3* 2 5 2* +29 :2))3*B ' ;7)<2 ' 62 (B96' ' ' 39 33 5 9 ' ' 2))4=2@)3 ' 2*? 94 5 3C '5 39 3;3* 2 ?7 (' 4 '*?7)<3 '* +3 7 5 49 ' 3A2<<3 2 '4* 4: +'9 <7') ' *2(' 4: 3* '* /2)7 5 *'479 '*;3* '4*9 ' +3 3 '9 +3 2' ' 4: 97/+ 2* '*;3* '4* '* +3 9 4 (' +2 ' +3 '* 4C ?7/3? +7 5 2* 92/ ':'/39 Z I$ 2*? 29 3;3* 9)2*?3 ' 5 79 ' +2;3 2 *2 '4*2) /+2 2/ 3 ' 4*3 9'2 '/ = ' 3 ' 92(9 ' +2

+3 '*;3* 3? '*9 753* 9 4: 4 7 3hl9h$ 2*4 +3 +2 +3 /29 2 3? @4(9 2*? ?3:)47 3? @ '?39P!

+2 7 79 6 4/7 3? +3 @2*'9+53* 4: +3 2 R7'*9 '*+'9 /262/' (4: '@7*3 4: +3 3)3 39 =29 ?354*9 2 3? @(' +3 # ,6)d % 45 +'9 947 /3 /253 +3 '*C :4 52 '4*+2 +3 +3)? +2 4::'/3))'3)2(' =+'/+ 962E3 4:+'9 :3'<*3? '?'4/(' /2**4 +2;3 E*4=*+2*(+'*< 2@47 '*9 2*? =29 '*/4562 '@)3 =' + ' G +3 2**2)'9 9 /45C @'*3? +3 =4 9 4 '39 +2 643 '/2) 2)3 =29 63 +269 4//29'4*3? @(' +'9 97 *2533 =+'/+ (3 52(' +2;3 +2? 2 ;3 (' ?'::3 3*'Q532*'*< :45 +3 4*R +3 3 2::'A 4 ' +2;3 @3:4 3 4@93 ;3? +2 7 79 '* 9/2* 532* 2 7*2=2(' 9)2;3. I 4= ' '9 329(' 4 7*?3 9 2*? +2 +3 62 '92*9 4: +3 2 R7'*9 52(' +2;3 266)'3? J97/+ 2 3 5 4 +'5 2*? +2 4* +3 4 +3 +2*? +3 2*? +3 452*9 5'<+ *4 @3 94 (' 4)3 +3 *'/E*253 6299'* 4 ;4<73

+3 /45'*< 4: 6 7/ 3 '79 ='+ " 2)3 '79 4: 4)B)2 '*79 =' + 7 79 4 +3 +4793 +2 +2? @33*? ?393/ 2 3? 2*? +3' ,4'*'*<'*;4='*< +3 @2*'9+53* 4: +3 (2* 9 '29 R7' 3 +3)44E 4: 2 +'9 4 '/2)J :2/ & 3 +'9 Z 42 + 4: +3 :47 452*9[.' '9 4*)(' 9(5@4)'/2) 4: +3 7*'4*' @3 =33*+3 + 33 62 '/'2* '@39 2*? +3 6)3@9C 2)C +47<+' ' '9 @(' *4 532*9 5(''* 3* '4* 4 ?3*(' +2 +393 ;3 (' :47 53* 52(' +2;3 36 393* 3? +3' 4 ?3 9 32/+ +h 4*3 +3 @3)4*<3? 4 4 +2 7* ') +3 /4*97)9+'6 =29 39 2@)'9+K +3(' 52(' 63 +269 +2;3 <4;3 *3? +3 367@)'/ "2)3 '79 9 44? :4 +3 2@'*39 +2 7/ 3 '79 @3)4*<3?

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4 +3 25*39 =47)?@3 /)32 3;36: 45 +3)3<2) 2C ?' '4* +2 +3)'/ 4 9 =3* : 45 "2)3 '79 4 +'5 4='*< 4 +'9 9763 '= 2*EQQ.J 7 ' : :4))4=9!9 ')) 54 3 ?3C /'?3?)(: 45 +'9 4::'/3 29 <4;3 *4 4: +3 /' (=+'/+=29 2 2/+ 4 +3 ?'<*' (4: +3 :' 9 93*2 4 +2 '9 4: +3 :' 9 254*< +3 3* :' 9 4: +3 25*39 3*/3 7/ 3C '79 =29 '* 3 3A 4))2 '*79 29 2 2 R7'* =29 4*3 4: +3 7/3 39 $ 2*? 7 79 2 6)3@3'2*

42-" 80" !1" 02.-1!@1-)1 4 -!1:)* (1.0J- -\ *87 06 ',14 S:1 .1 5 #/ -20- ":1243 W (! ('0.1- '."8- .1 I2-- " S "!1. 2-# ,1 -'0.*.16h4 '0 ',1 5.1(1:18(1 06 ',1 (+ ,.17".:'0 ',1 41"8 87 06 +, (,5,."-1 1@18 "1-". 61!" 28(1.'" 8? -11 1-'2-/@ 4"I0.14 (08-2!14 ,1 15 G ',1'- 06 ',1 ("8: +1.1 51.51'2"%*/ ',027, 8 "" @". 1'* 06 +"*-/ 51.5!1; 87 ',1 04"8- 06 "" !"'1." "71/ +,0-1 1..02.- +1.1 .151"'1:)* 08*- 2- "8: @* ,1 "481- +1.1 I2-" "- 42(, (8 (045". -08 + ',',1 ' 1-/ "-)0',' 06 ',14 +1.1 8 (045". -08 + ',',1 ', .:'.)1 08*- 2-/ B/S+,1.1 8-'1":' 06 % , "" "" (6 O "" +1 027, " '0 +. '1 ; "" 3?'3 "8:' B? ! ! J 6% J J Q &; 8 % O + N S',1 ' 1-#/ c). % " 0.10@1.' -2-51(" ',"" ',1 04"8 *02',- ".1 +.0871:/ +,18 ',1 (08-5."(* 06 ',1 '1!! "8: 92 !! - "-(.)1: '0 ',1 6"(! '* + ',+, (,',1 . "71 4"*)1 -1:2(1: ,1 1508*4 06 ',1 60.41.+"- 80 0',1.',"8 '"!2- , 4-1!6 S-11 ")0@1/ 5 #? "8:' 8 ',1 ,02-1 06 ',1 92 !! +1 6 8:',1 -2.8"41 2-(2- 18(1',1* +1.1)0',* *..,18 "8-/ "8:' -0 5.0)")!* 2(1.1-? "8:',1 +,0-1 .. '"' 08 "7" 8-"',1 ".92 8- +"- 08!* '."8- '0.*/ "8:' "8+87 +,04 ',1 . 14)"--":0.- +02!:' 8"'2."!!* !00D 60.' (08-5 ."'0.-/ -114 '0 ,"@1)118 4 -'"D18 1 '(

LL , - '-,"!! -,1+ 8 ',1 81;" @0!241/ 8 ',1 -1(' 08 08 ',"" 066 (1 0 11 5 B

U 8 ', - 50 8" -11 ',1 81;" -1(' 08 ,1 60.4- 06 ',1 (08-' G '2' 08 ".1 -0 (045!1'1!* !0-" - 7," 06 8 ',1 8'1.1-" 06 ',1 501' ("! -'0.*/ ',"" 80" "" +0.: - -" :" ")02" ',1 -18"'1 "" ',1 .1@0!2' 08 1" " +"- ")-0!2'1!* 450--)!1 60.',1 '(2. 1- '0 5"--" "8* :1(.11 + ',02" "5.1@ 02- .1-0!2' 08 06 ',1 -18"'1 ? "8:',1 418' 08 06 5 2(.1' 2-/ "- ,0!: 87 ',1 :02)!1 066 (1 S-11 0! 8/ 80'1 N#/ -,1+- 4"8 61-'!*',"" 8 ',1 !"+)00D- "!! ',1/ 5".' (2!".- +1.1 62!!* .1G 50.'1: - 6 .- -18"'0.',1 +"- 5.161(" 06 ',1 ('*/ "8:').027," 60.G +".:',1 41"-2.1)160.1',1 -18"'13 80")160.1',1 (2. 1- ?',"" +"-

+3 9 4 (4: 7/ 3 '209 5'9:4 7*3 2*? 4: +3 /4*C 93R73* 3A67)9'4* 4: +3 2 R7'*9,' '9 '*9362 2@)(/4*C *3/ 3? =' + +3 /256 @3:4 3 ?32 4=' J'*/3 =3 :'*? +3 4 52*9 '* +3 32 (4: +3 :' 9 /4*97)9 =' + 2 C +2<3 9 '67)2 '*< 29 6 4 3/ 4 9 :4 +3 634,6)3 4: ?32 29 :4 2 97@,3/ 2 '* /' (+3 9 2 353* +2 2 +3 5453* 4: +3 3;4)7 '4* 2 :': 33*B(32 9 7/3 =29 /4*C /)7?3? =' + +35 /2**4 @3 52'* 2'*3? 4 /2* +3 =2 ' 93): @3 92;3? : 45 :2))'*< 2)4*< =' + +2 9 2 3C 53* $ 3A/36 @(9','/+ 2 @' 2 (6 4/33?'*<9 29 +3 ;3 (63 94*9 =+4 2993 +3 +'9 4 '/2) /+2 2/ 3 4: +393)3C <3*?9 ?4 *4 9/ 76)3 4 2))4=' +359 ;39$ *253)(@(29975'*< +2 +3 7/3 '9 2 5'9 36 393* 2 '4* 2*? +2 453 52(+2;3 3?7/3? ?32 4 97@,3/ '4* '* +3 '*B 3 ;2

4=' 29 =3 :'*? 52 E9 4: '*;3* '4* 2*? 2) 3 2 '4* + 47<+47 +'9 *2 2 ';3 =')) *4)32;3 +3 63 6)3A'*< 62 4: =+2 '9 3)2 3? 4: 4))2 '*79 '* 9 3*'<52 '/2) :4 5 @7 =')) +2H2 ? 2* 3A6)2*2 '4* 4: ' 9 3;4) C '*< @3(4*? @3)'3: +2 +3 ?32 +' 4: 7/ 3 '2 9+47)? *4 B 2)329 29 2 6)3?<3 +2;3 3?3353? +3 +79@2*? 2*? +3 /+')? 3* ': 9+3)3: 2*(: 45 @2*'9+53* $ +3 /45C 54*6)2/39 2@47 +3 7*,79 ,32)479(4: 367@)'/9 =+'/+ =3 3 793? 4 <3 4;3 +'9 ?'::'/7) (9453 *'*3 33* +7*C ? 3? (32 9 2<4. =47)? *4='93)3993* +3 6346)309 <7') 7 =+2 ':' +3 52 '2<3 4: 4))2 '*79 =' + +3 ?27<+ 3

', 1)2- 81--' 06 ', 1 '.)281 06 ', 1 1!1.1-' -' 8'1..1;' ,1 41.1!* 5.1- :1:' 8 52'' 87 '0 ', 1 @0'1 ', 1 1!1(' 08 06 ', 1 ("8: :"'1-' 5.0G 50-1:')*' ', 1 -18"'1 @18 08 ', -' 50 8 ,0+1@1.' "' '."(1 06' ', 1 (0.G .1(" "((028 4"*)1 : -(0@1.1:/ -'."871!* 18027,/ 8 08*- 2-/ +,1.1 .2'2-' '1!!-' ', 1 (_18-' ', 1* ," :' '0 ,1".' "8:' '0 :1(:1 08 ', 1 41"-2.1-' :1(.11:')*' ', 1 -18"'1'? ,' .:' G[$ ' ' ' &- # % - ' D " Dp/ 2 I' ' ' @ ' ' ,1-1 41"-2.1-' ".1 80 0', 1.' ', "8 ', 0-1 +, (,/ "((0.: 87 '0 , -' "((028'/ +1.1 "7.11:' 2508)*' ', 1 602.' 418 8 ', 1 ,02-1 06 0!!"' 82-

=' " L J ' J' -" %# % /' 3 +' 0 6 :2 =;' Y' - ' 4114;' ' - 3 ' & ' ' ' G1H#!! ' H0!) 2-/ '

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4:' '/'6' '*''9' =29' 53 3)(' 2' :'/ '4*' 4' 2//47*' :4 ' 4 ' 4' 3A/793' +3' 2664'* 53*' 4:' 2' 2 R7'*'79' 4' +3' /4*C 97)2 3L' h

' +3*9' +3' :' 9 ' 9 36' =29' 4' =' +? 2=' +3' 96)3*?47 ' 4:' E'*<)(' 94;3 2'* (' 2)4*<' =' +' ' 9' ')3' : 45' +3' 4? '?9' 3A ' +3' ' ?'5 '*'9+' 64=3 ' =29')'5 ' 3?' 4' 2' 3 5' 4:' 3*' (32 9$ @3:4 3' +3'2 /+4*9+'6' =29' 52?3' 2**72)' 2*?' + 4=*' 463*' 4' 4 +3 ' +47939$ +3*' 4' +3' '/+' 254*<' +3' 3762B '?9$ 2*?' :'*2))(' 4' 3;3 (' :7))' /' 'H3*' @3'*<' *4=' *4')4*<3 ' 2*(+'*<' @7 ' 2' @ '))'2*' 6+2* 45 ' *')'E3' 52**3 ' +3' 976 353' 64=3 ' 4 ' 9453' 5354 '2)' 4:' ' ' ?39/3*?3?' '*' 4 +3 ' 33E' 9 2 39' : 45' +3' E'*<' 764*' ' 4:' +3' +4793' +3' +2?' @3)4*<3?' 4' ' 5'<+' 9335' 29' ':' '*' 2*' 3)3/ ';3' 54*2 /+(')'E3' 453' +3 3' =47)?' @3' *4' 4;3 C 7)'*<J'*3/399' (' :4 ' 94' < 2?72)' 2' 2*9' '4*' &3 ' 97/+' 2' *3/399' (' =47)?' @3' :3) ' ':' =3' 9766493' +2 ' +3' 64=3 ' 4:' +3' 2 R7'*9' =29' '*' :2/ ' 2) 32?(')44E ' 764*' 29' +3 3?'B 2'(' 2*?' +2 ' +3')3993 ' +47939' +2?' 2/R7' 3?' 97/+' 2' 6 3C 64*?3 2*/3' @(' +3' ' 532*9' 29' 52(' +2;3' @33*' +3' /+'3:' 3294*' =+'/+' '*?7/3?' +3' 52,4 ' +47939' 4' 7*' 3' =' +' +3' /45 54*2) (' *' 97/+' 2' /293' ' ' '9' 3A 353)(' 6 4@2@)3' +2 ' 2' /4*/')'2 4 (' /456 45'93' =47)?' @3' 52?3' =' +' +3' 2 R7'*'2*' +4793' 2))4='*<' +2 ' 4*3' 4:' +35' 3)3/ 3?' @(' +3' 6346)3' 9+47)?' 62 2E3' '*' +3' 976 353' 64=3 $' 54 3' 3963/'2))(' '*' 2' 9 2 3' =+3 3' +3' 2?;2*/3' 4:' +3' /4*9 ' 7C '4*' =29' 54 3' < 2?72)' +2*' '*' 2*(' 4 +3 ' +'9' '9' +3!' 54 3' / 3?'@)3' 29' 2')'E3' 6 ';')3<3' 9335'9' 4' +2;3' @33*' 2: 3 =2 ?' < 2* 3?' 4' +3' "2)3 '" 2*?' +3' %2@'' ' *' +'9' =2(' 4))2 '*79' 52(' +2;3' 4@ 2'*3?' +3' /4*97)9+'6 ' 7 ' +3' /+2*<3' <4'*<' 4*' '*' +3' 9 2 3' =47)?' *4 ' +2) ')4*<' 2 ' +'9' :' 9 ' 9 36 ' +3' 2 R7'*'" :7 *'9+' < 47*?9' :4 ' 9796'/'4*$ 2*?' +3' =+4)3' +4793' =29' @2*'9+' 6 2' 3/4 ?

f! 7 $'%7' 7'F' ?' `B +'" 7(& 7C' 7' 7K7C' F'&C' 7' H7 $'" 74&'' 7'o . '% J, . ' 7''74&'' \ #*B Q$' 'C+4$ 7'" $ + ?&C' ??$ 7? 7C' 7&'F $?7' $K?+ $? "7(F& 7 & '7' J % J, ' $ 7?' $?7' ?$C ? 'B 2= =' F+''+K7' + '$ % +2 "E+' + ' ?7'$'%' ? $?' H7 277?' =7' L ?' C7?' +?% =$'7' C7CH7 " $' =7

=+'/+ '9 +3 54 3 '*9 7/ ';3 29 ' 36 393* 9 +35 7*?3 2* 3* ' 3)(?'::3 3* 2963/ : 45 +2 4: 2 9'*<)3 :25')(+3 < 2*?/+')? 3* 2*? < 32 B< 2*?/+')? 3* 4: #2B 52 2 79

=$&'7 2=$ 27 7 ?$ $??7 7% HI H $$% : I - $C?7 % J, '0 - 7(&>7 7''7? $ '7F+ + 7 = $C =7 %7 77 7(7 7''7 0 ' % J, , ' , ' , 0 ' ' L ' . ` - >+ c ? N& 11 F . - ? Q$? &' ? 7% &'B C?7' + 6& + $ 747 7 &= ?7 N&+C 7% $? ' F7 0 -K - ' 'F7C =+H7 7? B =+ =7 $I+ +C I C K= ?$ =7 '= +?I =$F7 $ H7 ?K 7' $ 7% HI =7 $ =7 C7CH7 $ =7 K7?'

2 +3 @3<'**'*<4: +3 367@)'/ /45 52*?'*<=29 :2 50:3 +2* 3' +3 +3 4*3 4 +3 4 +3 +3 ?'9 '*<7'9+'*<2 ''B @7 3 4: +3 /4*97)2 3 ' +47 ?47@ , +3 *253 532*9 *4 +'*<T 54 3 +2* 9'56)(5 +3 9())2@)3 '9 :47*? '* 2*? =+3 3 ' 9'<*':'39 $H & +7 a '9 2* 2547* 4 +3 *253 <';3* 4 76' 3 0 /47*/')4:<4?9

 2997 3?)(=29 53 3)(!: 45 36 393* 2 '4*9P4!: +3)3<' '52 3 6 4/3?53 '* /4*97)2 3)3/ '4*9 ? 39 76' '* 2 +'9 4 '/2):4 5 +2 +3 +'9 4 '2*9 44E +3' 649' ';3 9 2 3C 53* 29 4 +3 3)3/ '4* 4: +3 :' 9 /4*97)9 @(+3 /3*C 7 '39 +'9 /3 2'*)('9 *4 +'9 4 '/2) 3;'?3*/3 &3 2) +47<+ +3 3)3/ '4* 39 3? 2: 3 =2 ? =' + +3 /7 '39 =3 /2* ?'9/4;3 +4= ' =29 797 6 $ 2*? ' '9 *4 /4*C /3';2@)3 +2 2 +3 ;3 (:' 9 =+3* +3 6)3@9 =29 32 3? =' + '*?7)<3*/3 +3)2=9 4: 3 ;'79 9+47)? +2;3 @33* ;'4)2 3? 0 *)(@(2 7*'4* =' + +3 /45 54*2) (/47)? +3 4)?3 '@39 ? ';3 +3 +' ? @2/E =')7* @47*?9 6 2*? +3*/3 +3(2))4=3? +493)2=9 4 @3 3A3/7 3? 94 /45C 6)3 3)(+2 +3 6)3@3'2* 7 79 =29 /+493* 4*3 4: +3 :' 9 /4*97)9

 $C+? L ?K +?% K7?7 + 5 $C7%7' ? F 3!) & ' =R 8 =7? 7 7 %7? =+ + +' 7+' 2+? 7% =7 &? I $ C7 $ =7 P 77L +K7%I =+ 2+ +< - 2 L7 =+L'F7+ 7 ' * =+ 7 7 7 7% +H$ 7 5F 3-#R $ + % + $K&7 H7 277? =7 %?K +?% = % 7+C ? 7 M F 7 7 ? =7 3 ,-, 2= = C&' =+ 7 +L7? F + 7 H7 $ 7 %7+ =7 7' +H '=C7? $ =7 ?72 K$ 7 ?C7? 2= = C&' =+ 7 H77? =7 $ +' $? $ =7 'F77 = J, - , - , H I = I? =&' +?% -< 1 $ ' =I &' 27 7 F + I =+ % 72 H = + =7 C+? I 77 ?K $ H 77% ?K $ 7(M & ?K =7+ ' +?% ?$ +K7% 7' $ =7'7 =7 P 77L' H7 $ 7 =7 7(+?% +? +K7 $$L =7C F $ '$ 7 I $& $ CI = +' $ I 2+ 7''7? + =+ =7 $? 7? '=$& % H7 L?$2? H7 $ 7=+?% 2=7 7+ =7 ' $ 7 $ +C 7 +?% + H7 = 27 7 &?L?$2? $ =7 'F7 + $ ' F 7'7? F+ $ =7C C K= H7 C$& %7% ? $ +K7M % 7 L7 =7 P 77L + $F=$ 7 27 7 $ '7 &F

 $C 7? & + ' '+I : I? " 9[? =7 7 % $ + ' $?I' &' _

%4 ' ' /4*:'?3*)(' 3<2 ?' 7 7 9' 2 9' @3)4*<'*<' 4' +3' 6)3@9 ' =+'/+' +3' 36 393* 3?' 2 5 4*<' +3' :47 ' 5 3*' ! !+3' 7*'2*' +4793J)44E ' 764*' +'5' =' +' 6 '?3' 2 9' +3' :47*?3 ' 4:' ' 9' *4@')' (' G 2*?' +2 ' +3(' 3963/'2))(' +3' 7 ' ' =3 3' 6)3@3'2*9' 2: 3 ' +3' '5 3' 4:' +3' '/'*'2*')2=' '9' 7*C R739 '4*2@)3 ' ' '9 6 4 ;3?' @(' +3' ' @3'*<' '@7*39' 4:' +3' 6346)3' ?4=*' 4' +3' 3*?' 4:' +3' 367@)'/J.G' 2*?' '*' +3' :': +' /3* 7 (' 5 4 3' +2*' 4*3' 7*'79' 7 7 9' 26632 9' '*' +3' /4*97)2 ' %29 '' 29' +3' 6)3@3'2*' /4))g<73 ' 4=' ' ' '9' 73' +2 ' '*' 5 2*(' /2939' 6)3@3'2*' :2 5 ')'39' =3 3' '*')2 3 ' 2<39' +3' 4*)(' 97 ;';'*<' ?39/3*?2* 9' 4:' 62 '/'2*' +47939' $ 2*?' ' ' '9' 6499'@)3 ' 2) +47<+' 2*' '*9 2*/3' '*' 64'* ' =')' +2 ?)(' @3' :47*?' +2 ' 97/+' 2' :2 5 ')(' 5 2(' +2;3' 3 2'*3?' +3' 63C /7)'2 '97 *2 5 3' 4:' +3' 62 '/'2*9' 4' =+4 5' +3(' =3 3' 2))'3?' 7 ' '9' ' ' *4 ' 3A/33?'*<)(' 9 2*<3' =+3*' =3' E336' '*' 5'*?' +3' ?'9 '*/ '4*' @3 =33*B' 2' +4793' 2*?' 2' :2 5 ')(' +2 ' @3:4 3' +3' '/'*'2*')2=' *4 ' 2' 9'*<)3' 7*'79' 4//7 9' '*' +3' %29 '' L' 3;3*' 2?5 ' '*<' +2 ' +3' '5 5 3?'2 3' 649 3 ' (' 4:' 7 7 9' =3 3

7 $' T & ' *3' 5`#R' = F' ' ,' 5*#R' ' +?' $? I' =+ 7' H77? ?' $?'7N&7? 7' $ ' =7 '%7%& ?K' =7 ' + 7' L7' =7 7 K ' +?% &7? ' $C' $?7 $ ' =7' $CF+? $?'' $ ' ?7+' ' =+ ' $?I ' &'' 5 ' , !R + H& 7% =+ ' %7' 7?' $' =7' $&?%7 ' $ ' =7' 7F&H ' =7?' =7' 7F$?I C'' $ ' =7' =$&'7'' 27 7' $? 7' '&FF$'7% % =+ 7' H77?' =7 ' F $K7? $ ' '' '& =' +' K7?7+ $KI' 2+'' +' +' 7 7? ''4&' ' +'' 27 ' '& 7% $' +' F 7H7 +?' =$&'7' =+ ' %=7 $C' '$C7 H+?' $ ' :+ ?' $2?' +'' $' $?7' $ ' =7' +C?7'

Z' #'4*(9'79' ; ' 793 9' +'9' ;3 (' 2 <753*' 4' 9+3=' +2 ' +3')2 3 ' 7*''' 7 '' =3 3' 4 2))(' 7*/4**3/ 3?' =' +' +3' :47*?3 ' 4:' +3' /45 54*=32) +' 3' 52(' +2;3' @33*' 9'*/3 3' '*' +'9' @3)'3:G' 2*?' 94' 52(' #'4*' 6 +' G' @7 ' +3' :4 53 ' /2**4 ' 6499'@)(' @3' 94' '*' +3' 4?'479' 6'/ 7 3' =+'/+' =+3*' 3)2 '*<' +3' 93/399'4*' 4:' +3' /45 54*2) (' +3' '39' 4' <';3' 4:' +3' 6)3@3'2*' 4 2 4 ' ' 7 79' 8976649'*<' +'5' 4' @3' +3' 2*/39 4 ' 4:' ' 7 79' 29' 4:' 2' 5 '9/+'3;479' '*/3*?'2 ($ 2) +47<+' 2)' +3' ?352*?9' 29/ '@3?' 4' +'5' 2 3' 63 :3/)(' 3294*2@)3' 2*?' ,7?'/'479 ' +3' 46'*'4*9' 6 4:39 ' 2: 3 ' +3' @2)3' 4:' +')'66'' 2 3' =4 +' 9 '))')399' +2*' +493 ' 9)'<+ ' 29' +3' ' < 47*?9' 2)94' 52(' @3' =+'/+' =3 3' +3)?' '*' +3' '53' 4:' '/3 4 ' :' 49'?4*'79' :2*/'3?' +3' ?'9/3 *3?' 2')'E3*399' 4' +3' :32 7 39' 4:' +3' 2*/'3*' 9 2 73' 8)' 2 /+' 7 ' ' D' +'9' 4*)(' 6 4;39' +2 ' +3')44E ' =' +' 3(39' 4:' : '?*399

3A '*/ ' +3' ' 7*'79' 7 79' 44' =+4' '9' 53* '4*3?' @(' #'4*(9'79' 9'A 33*' (32 9' QJ 3 ' +3' :' 9 ' /4*97)2 3' 29' 4*3' 4:' +3' =4' :' 9 ' '@7*39' 4:' +3' 6346)3 ' 2: 3 ,;2 ?' 29' 3?')3 ' 2*?' 4:' =+45' +3' +29' 2' < 32 ' ?32)' 4' 3))' 79'0…' @7 ' 4:' =+45' ';(' E*4=9' *4 +'*<' =29' 6 4@2@)(' *4 ' 2' 4 2))(' :'/ ' '479' 63 94*' @7 ' 4*3' 2*9:3 3? @(' 9453' 6)3@3'2*' 2*C *2)'9 ' 4' +2 ' 2<3' : 45' 4*3' 9453=+2 ')2 3 ' :4 ' +3' 92E3' 4:' 29/ '@'*<' +3' 39 2@)'9+53* ' 4:' +3' : 33?45' 4:' +3' 6)3C @3'2*9' 4' 2' E'*952*' 4:' +, ' :47*?3 ' 4:' +3' /4554*=32) + ' +2;3' 2) 32?(' 352 E ' +2 ' 7*)399' +3' /4*97)2 3' =29' 9+2 3?' @3 =33*' +3' =4' 4 ?3 9' 2))' +3')'@3 '39' 4:' +3' 6)3@3'2*9' =3 3')3: ' =' +47 ' 2' 92:3<72 ?' J 9' +3' '/'*'2*' 2< 2 '2*')2='' '*' :2/ ' 4*)(' 3;';3?' +2 ' 4:' 299'79 ' =+'/+' 47<+ ' 4' +2;3T @33*' '*' :4 /3' ?7 '*<' +3' :4 3<4'*<' +7*C ? 3?' 2*?' =3* (' (32 9' 2*?' =+'/+' ' 93):' +2?' 53 3)(' <';3*' 3::3/ ' 4' 2*' 4 ?'*2*/3' 4:' 3 ;'79$ '*' +3' 9253' =2(' +3' '/'*'2*')2='4*' +3' /4*97)2 3' 9335' 53 3)(' 4' +2;3' <';3*' 2' 2 ?(' 3::3/ ' 4' 2' ;3 (' 2*/'3* ' 6 '*/'6)3' 4:' +3' /4*9 'C 7 '4* ' +3')3<3*?' '*?33?' /2))' ' 7 79' +3' 94*' 4:' 2 R7'*'2G @7 ' +'9' *4' =2(' 3))' 2<2'*9 ' +'9' @3'*<' 2' 6)3@3'2*' :4 ' ' @3)4*<' 4' +3' :2@)3' 4:' +'9' 2997 53?' '?'C 4/(G' 2*?' 3;3*' ':' =3' 2?46 ' +2 ' 2//47* ' (3 ' 52 '2<39' 4:' ?'962 2<353* B' =3 3' *3;3 ' :4 @'??3*' 2*?' =3 3' 3;3*' : 3R73* ' +47<+' '*' :'*3' ' ' 9335' ?':''/7) ' 29' ' 2?5' ' 4' 3/4*/')3' +'9' @3'*<' '@7*3' 4:' +3' 3)3 39' =' +' +'9' @3'*<' 2' 6)3@3'2*' (3 ' +3' 797 63 ' 5'<+ ' 2997 53' +3' ?'9C 6492)' 4:' 2' 6)2/3H' =+'/+')3<2))(' 47<+ ' 4' +2;3' @33*' /4*C :3 3?' @(' 3)3/ '4* ' +'9' =29' ?4*3' @(' +3' 33E' (2* 9' =+3*3;3 ' +3(' 6)3293?' ' '9' /)32 ' +2 ' '*' 97/+' 2' 9 2 3' 4:' +'*<9' +3' '<+ 9' 4:' +3' 4 ?3 9' =47)?' *4 ' @3' 3<2 ?3?' 2 R7'*'79' +2;'*<' 2;2')3?' +'593):' 4:' +3',32)479(' 4:' +3' 62 '/'2*9' =47)?' *4=' +2;3' 4' =2 /+' +35 ' 7 79' 44' 52(' +2;3' ?3/3';3?' +3' (2* ' @(' 6 3 3*?3?' ?3;4 3?*399

+ 47<+47 ' +3'+'9 4 (' 4:' +3' 3/399'4*' '*' +3' 9'A +' @44E' ->7?'*' +3' 93;3* +' '*' +3' 2//47* ' 4:' +3')2=' @(' =+'/+' +3' '@7*39' 93/7 3?' +3593);39' : 45' '* 3 76 '4*' =+3*' 2?? 399'*<' +3' 6346)3

'*' 4 ?3 ' 4' ?39 4(' +'5'ZZ ' 4 34;3 ' ' 'g' 4' +3' 64'* !' 4' 352 E' +2 ' +3' 4:) /3' 4:' +3'6 ' ' =2g' 7*';3 92))(' 3<2 ?3?'2g' 2' /4* '*72 '4*' 4:' +2 ' '@7*2 3!$ 2*?' (3 ' 2' 6)3@3'2*' /47)?' +4)?' ' ' 2 ' +3B '53' =+3*' +3' /4*97)9+'6' =2g' 9 '))' /)493?' 2<2'*9 ' +'g' :3))4=g' . ' g' 944*' 2g' +3' 62 '/'2*' '@39' =3 3' 7*' 3?' 254*<' +3593);39 ')'3' 3*,4(53*' 4:' +'g' '<+ ' 5'<+ ' 329')(' @3' =' +? 2=*' : 45' +3' /45 54*2) (' @(' 2')')3' @4)?*399' 2*?' +3' / 2: (' 6 3 3*93' 4:' <';'*<' +35' 2' /4563*92 '4*' @(' 4 +3 ' : 33 ' 6 ';')3<39

+3' 3)3/ ';3' E'*<g' 4:' 453' 3*,4(3?' +3' 9253' +4*47 g' 2g' ' 3' +3 3?' 2 (' E'*<g' 96 7*<' : 45' +3 4'/' +47939' 7 ' +3' /79 45' :4 ' 2' =+4)3!6346)3' 4' 5675' :4 ' 97/+' 4*' +3' ' ?3/3293' =2g' *4 ' 63/7)'2 ' 4' 2/3?354*'6 2*?' '*' +'g' =2(' *4' ?47@ ' +493' 4:' 453' 44' =3 3' 547 *3?' :4 ' ' /4*C /3';3' +2 ' +3' 39 '54*'39' 4:' 94 4=' =+'/+' +3' 52 4*g' =3 3' 92'?' '*! +3' /3 354*'2)' @44Eg' 4' +2;3' <';3*' :4 ' +3' ?32 +' 4:' T 7 7g' 2*?' "2)3 '79 ' 579 ' +2;3' @33*' 2/ g' 4:' +452<3 ' =+'/+ ' 94')4*<' 2g' +3' /4*97)' 2g' +3)?' 4' +2;3' 97//33?3?' 4' +3' :7))' '<+ g' 2*?' 6 ';')3<39' 4:' +3' E'*<' =3 3' 65?' 4' 3;3 (' 4*3' =+4' ?'3?' ?7 '*<' +'g' (32 ' 4:' 4::'/3

7 ' +4=3;3 ' *32 ' +3' 52,39 (' 4:' +3' /4*97)g' 52(' +2;3' 266 42/+ ' 4' +2 ' 4:' +3' E'*<9 ' +3' 62 '/'2*' /)299' 2 ')329 ' =2g' :2 ' @3 3 ' 93/7 3?' 2<2'*9 ' 2' /4*97)0g' 2@79C '*<' +'g' 64=3 $' :' 9 ' @(' +3' '* 3 649' '4*' 4:' +'g' /4))g<73 ' 27?' *3A ' @(' +3' 2**72)' ?7 2 '4*' 4:' +'g' 27 +4 ' (' 4' @ '*<' 2' /456)2'* ' 2<2'*9 ' +3' E'*<g' =2g' '56499'@)3' 2g' ' ' /4* '*73?' 4' @3' 2<2'*9 ' 3;3 (' 4*3' =+')3' '*' 4::'/3' ' /4*97)' ':' *4 ' 33)3/ 3?' 92*E' 4' +3')3;3)' 4:' 2' 6 ';2 3' /' 'H3*':' 2*?' +3*' +3' R739 4 g' 5'<+ ' '5632/+' +'5

' 2 ' ?$' +I' +?I' ' 7'*' $?' =7' F+''+K7' 2=7 7' $?I' &'' 7(M F 7'' I' ''+I*' 5 ')*R =+ ' =7' L ?K' H7' $27% =7' $ 7' $?' T & &'' 2 =' +' 72' $' &?%7 C ? ?K' '' +& =$ I'B + =$&K=' = '' %$&H 7'*' 2+*' + '$ =7' +'7' ' 27' '&FF$'7' =+ ' +?' + 7?' $' =7' $ %7 ' 2+*' ? 7' 7% 2 =' _' 77 ?$ 7' * `-' CF? &'' K' : H' ' ' ' *B + $ ' H&'' +K ' ' N& &C' ?4&?K7H+? & ' ' ' ' N&C%$ 7K H&'' H&?' 7 7 &C

+393' 67@)'/' 2//793 9'02*?' *4')'3' E3363 9' 4:' +3' 67@)'/' 67 93' 579' +2;3' @33*' +3' R739 4 9' 964E3*' 4:' '*' +3''/7 I2 3')2='@(' =+'/+' 7 79' +2?' ',3*2/ 3?' +2' +3'' 4:' /3 9+47)?' /4* '*73' 4*' +3' 9253' :44 '*< 29' 7*C ?3' +3' E'*<9' ' 2997 3?)(' =29' 4*)(' @(' '*:3 3*/3' +2' 2/' 79' =+4' 9335 9' M4 +2;3' E*4=*' +'9')2=' 53 3)(' 2' 93/4*?' @2*?' 2*?' =+4' :47*?' 2' 9 2 353*' 4:' +3' :' 9' '53' +2' +3''/3* 7 '39' 2664'* 3?' 4' +'9' 6)2/3' *4' 63 /3';'*< +2' @(' +3' ?3/35;' 2)' /4?3' +3' 3)3/ '4*' =29' 2*9:3 3?' 4' +35' :'B45' +3' /5 '39' /4*/)7?3?' +2' +3' R739 4 9' +2?' 6 3;'479)(' @33*' *253?' @(' +3' /4*97)9 ! 2*?' @3:4 3' @(' +3' E'*<9' +2' +3(' =3 3' 6+493*' @(' +3' 6346)3' +2' '9' @(' +3' /7 '39' 7*?3' +3' 54*2 /+(' =29' 3A6 399)(' 9 2 3?' @(' 7*'79' 2//+2*79' ' '9' '5 52 3 '2)' +3 3' +2' 2/' 79' 2*?')6'2*' @4 +' /4*:47*?' +3' ' =' +' +3' ' $' =+'/+' 9253' 5'9 2E3' 579')'3' 2' +3'@4 45' 4:')7 2 /+09' 2//47* $' 2) +47<+' +3' 3AC 6)'/')(' 9 2 39' +2' +3' 39 2@)'9+53*' 4:' 2' 67@)'/' 3297 (' 2*?' +3' '<+' 4:' 3)3/ '*<' =4' 3297 3 9' /4*:3 3?' 4*' +3' 6346)3' =3 3' 254*<' +3' 3*)2 <353*' 9' 4:')'@3 (' :4' =+'/+' +3' 367@)'/' +2?' 4' +2*E' +3' /4*97)' 7@)'/0)2JL' 3' 26632 9' 4' +2;3' +32 ?' 9453' 364' 4:' +3' 9253')2=' 4:' +3' /7 '39' ?'::3 3*)(' 54?':'3?$ 2*?' 3:3 3?' 4' 7@)'/0)2' '*9 32?' 4:' 7 79

+3 3' '9' +3' 9253' :)7/ 72 '4*' @3 =33*' 7 79' 2*?' 7@)'/0)2' '*' +3' 2//47*' 4:' +3' :') *< 76' +3' *75@3' 4:' +3' 93*2 3' ';(' 29/ '@39' '' 4' +3' :4 53 $ %39 79' 2*?

;' + &'' ?+' (' F +?' K' ' *#' O&$'' 5 7K7'R' ?$?' '&+' $ 7' '7% F$F&' '& +K $ 7+ 7?' $CF+ 7' : I%&' '%7' +' K' ' 3

' &H $:' ' * ' ' \ % ' ,7 s

' 8 ' % $ 6+' & + =' % 72' C& =' $' = '' 7+ I' $C+?' = 'M $ I' $C' >+ 7 &'' ? +'B +?% 27' +?' 7+' I' $? 7 7' =+' = '' 2 7' + ?' $' =7' =$&'7' $' 2= =' =7' ?' '$C7' C7+'& 7' H7 $?K7%' 2$&% +' H7' + ' =7' $&% $' &H V +' =7' 2$ % $' '77C'' $'H7' +L7?' $C' =7' &'+K7' $' + 7' C7'B ?' = '' F + 7' 27' +?' =+ % I' '&'F7' =+' =7 7' 2+'' +?I' $? &' $? H7 277?' =7' +?% =7' =$ 650' 0

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)7 2 /+ 4 +3)2 3 '$ #'4*(9'79 /45@'*'*< +3 =4 2//47* 9 4 @4 + 2/' 79 =+4 3))9 79 +2 7 79 2'93?7 +3 5'*4 +47939 4 +3 62 '/'2 3.!I '9 4* +3 9'?3 4: '; (G :4 +3)'E3 #'4*(9'79 '9 5'9)3?7 @(' +3 *4 '4* +2 +3 62 '/'2*9 =3 3 *4@)3 :25')'39 +3 649C 3 ' (' 4:7 97/+ '*?';'?72)7 93*2 4 9 29 =3 3 2664'* 37 2 +3 :47*?2 '4* 4: +3 9 2 3 4 4* 9453)2 3 4//29'4* =' + 3<2 ?7 4 =+'/+ 46'*'4*9 ?'::3 3?7 * +'9 =2(' +3 4;3)44E9 +3 /+2*<3 523?3 @(' 2 R7'*'79 '9/79$: 45 :'A'*< +'9 3(3 4* +3 4 +3 < 32 27<53* 2 '4* =+3* 2: 3 +3 39 2@)'9+53* 4: +3 /4*97)2 3 6)3@3'2* E*'<+ 9 =3 3 2?5' 37 '* 4 +3 93*2 3$ =+3*Q +3 3:4 3 ' :' 9 @3<2*P 4 @3 /45649337 4: 2*7 62 '/'2*9 2*7 97/+ 29 =3 3 /2))37 76 @(' +3 /4*97 +3 2//47* 6)2/'*< +3)2 3 2 mX 579 /3 2'*)(' @3 2 :2@ '/2 '4* 4: "2)3 '79 * '29.V +393 2 @' 2 (' *'7*@3 9 =3 3 2 '/E @(' =+'/+ +3 '37 4 <';3 +'9 :'/ '4*9 2 ?3)79';3 3935@)2*/3 4<3*7'*3 2//47* 9

';(' 92(9 +3 (2* +27 356 '37 +3 93*2 3B+4793 @(' +'9 3A3/7 '4*9 +'9 44 579 @3 2* 3A2<<3 2 '4*G 2*7 =+2 3;3 R72* ' (' 4:@)447 52(' +2;3 :)4=37 +3 3 =29 *4 =2* 4: 62 '/'2*9 4 52E3 76 +3 /456)353* $ '*2957/+ 29 +' (' (32 9 2: 3 =2 7 +3 %2@'' 3;3*' ': +3(' ?'7 *4 2547* 4 + 33 +7*? 37 =3 3 (3 94 *753 479 +2 +3(' :4 537 2 93)353* '9 54 3)'E3)(' +2 ;3 (' 52*('932 9 =3 3 ;2/2 37 @(' +3 @2*'9+53* 4 35'C < 2 '4*' 4: +3 2?+3 3* 9 4: +3 2 R7'*9 :=3)44E 2 +3 52 3 +'9 4 '/2))(' ' =29 +3 *3/399' (' 4:R7'3 '*< +3 93/4*7 39 2 3 +2 54;37 +3 62 '/'2*9 4 2< 33 :4 +3 '53 4 2?5' '*< +393 93*2 4 9C 2*7 ':' +3 63 94*''(B '*< 6 '*/'6)3 @3 /4*9'9 3*)(' 266)'3?' =3 +2))9 29/ '@3

' 85"!'L '

@*/8 ' 1-'2-/@'M2' 5"'.1-/92' (08-(.5' H!2'".(,/ M2"1-' 04' +

A 1-'2-/"-)160.1' H!2'".(,/H2)! (0!'('

F ' ' "1:)2- 8' ', -5("--"71 -', 1 0!:-51!! 87 60.' '"8:,"-)118 !16 8',1'1 ;"6.04',11:!1--81--

+'9 3R72)'H'*< 53297 3 4 J 7 79 /4*9'?3 3? 29 2 6)3C @3'2*

4 : 253 2 /4*/36 '4** 4: +3 9 2 3 6: +'*<9 =)''/+)3?2 ' +2 ' '53 4 2 *3=9(9 35 4: :'))'*< 76 +3 93*2 3 ' ' '9'*' +3 :' 9 6)2/3 3R7'9' 3 +2 =3 9+47)?3* ' 3)(?'9C 5'99 +3 '))79'4*9 4: +3 :2/ ' '479 /+ 4*4)4<(2*?*4)3 47 93);39 @3 ?'9 7 @3?2 ' +3 44 < 32)3*< +' 4 '9+4 C *399 4: +3 '* 3 ;2) @(' =+'/+ /3 2'** 64'* 9 9335 4 @3 9362 2 3?

+47<+ +3 :4 5'*< +3 + 33 *?=3R739 '2** /3* 7B '39 39 4 3? +3 6499'@')' (' 4: /2))'*< 76 4*3 47 ' 4: 3;3 (' @4793 4 +3 93*2 3 4: + 33 +7*? 3?' 9 '))' +3 +47939 +3*/3:4 =2 ? @3<2** 2*3=4 97::3 ' +3h)4 ' 4: 2))' 3A/)7C 9';3 @4?'39 ' +3(' ?'3?4::' 2*? +3 54 3 26'?)(' 29 52 '2<39 4: ?'962 2<353* ' 579 ' +2;3 @33** : 3R73* ' '** =+'/+ /293 +3 '9973:4))4=3? +3 @293 ' @)44? G 2*? +79 +3 *75@3 ' 4: +3 93*2 3 =47)?2<2'** :2))' 4::'?T7 +3 ' 2*?:7 +3 ': 45 +3 :7))' /456)353* ' %4 ' +'9 +3 3 =29 2 353?(' '** /293 +3 ?367 '39 =3 3 97554*3?' 2*? +3 ;2/2*/'39 :'))3?76 ' *4)4*<3 ' @(' +47939 ' @7 ' @(' /7 '39G 2*? +'9 9 36 4** +3 42?: 45 +3 64'* ' =+3 3 2J97554*9 =29 /)2'53?29 2 '<+ ' 4=2 ? 2 63 :3/)(' : 33 /+4'/3 =29 2 < 32 ' 2?;2*/3 52?3 @(' +3 3)3/ ';3 64=3 ' ' =29 @ 47<+ ' 2@47 ' @(' +2 ' ;'*'2** '@7*'/'2**)2= ' 4: =+'/+ =3 32?'** %39 79 I . ' 7?<'*< : 45 47 ' E*4=)3?<3 4: +3 2*/'3* ' 6+ 2934)4<(' 97/+ 2)2=5 79 ' +2;3 @33** 4*3 629 ' @(' +3 /7 '39 ' 4** @3'*<6 46493?4 +35 ' @(' 2 '@7*3

< ' II3 8"**)1 921-' 081:' ,0+1@1.' + ,1', 1.' ', 1 -08 06 "' 5!1)1 "8 +04"8 -0 4"..1:' +"-' "!+"*-' ": 4 ''1:' 8'0 ', 1 (04408"!'*3 "8:' +1 4"** -2-51(" ', "' 8 1".!*' ' 41-' ', -')0:** "!-0 +"-' 42(,' 40.1 1;(!2- @1/ -0 ', "' , -') .', ' +02!:' 08!** 5!"(1 , 4 "4087', 1 1.". 88-

K @ 8 '" '.)28 ("' -"8('24 1-" 2" (18-0.1-' 1;' 048 '0.: 81 05G ' 424 92149211 (2. "' 4 8 18"'24 (71.18'? 1-'2-/ @ ' H."1'1. ' ' 18"'0.1-' =$ ' ' +, (,' 1-'2-' (05 1:' ! '1."!!**6.04 1. ' . 2-/ -' 51.61('!** (0..1(" 6 02" 06 ' B ' ' $+ ', 02" .17". :' '0 "8** 5"." (2!".' 718-#3 80'/ 02" 06 ' ' ' 8:11:' ', 1.1 +1.1)2" B ' 06", 14

7) 3 +3 ?32 + 4: 7 79 7@)'/0)2 < 2* 3? 2 <3*3 2) 63 5'99'4** :4 2*(' 4*3 4 +3 2 /2*?'?2 3 :4 +3 /4*97)9+'6 .J. +'9 =29 ?4'*< 2=2(' +3 7)3 +2 *4*3 9+47)? +3 67 4 +3 ;4 3 @7 97/+ 29 +3 93*2 3 6 46493?' 2*?) 44E9)'E3 2 963/'479 /4563*92 '4** 4 +3 6)3@3'2*9' <';'*< +35' 2: 33 /+4'/3' '*9 32? 4: +3 9+2 3 '** +3 976 353 4::'/3 =+'/+ +2? @33** =' +? 2=** : 45' +35 4 34;3 +3 '9 /2))3? +3 27 +4 4: +3 /79 45' +2 +3 /0*97) 4: +3 9763 '4 '@3 9+47)? :' 9 +2;3 +3 :29/39 /2 '3? @3:4 3 +'5$ 2*?' :'*2))(' 4: +3 6 2/ '/3 4:6 4*47*/'*< :7*3 2) 4 2 '4*9 4** ?'9 '*<7'9+ /' 'H3*9$ +'593): 62('*<T +2 +4*47 4 7 79

+3 '<+ 7*?3 9 2*?'*<4: +3 =4 ? ?'99'62 39 +3 :2*/(' +2 +3 97 *253 4: "2)3 '79 =29 +3 ?39'<*2 '4** 4: 2 ?352<4<73)'E3 3 '/)39 =+4 /47 3? +3 :2;47 4: +3 57) 7?3 +3 299350@)(@3:4 3 =+'/+ "2)3 '79 4 ?3 3? +'9)'/ 4 9 4)4=3 +3' @7*?)39 4: 4?9 ?'92 53? 4: +3' 2A39 '** 2/E*4=)3?<353* +2 2))27 +4 (' 352*2 3? : 45' ' =29 2 : + +3 < 32 /47*/') 4: +3 62 '/'2*9 39'?39 +3 /4*97) +2? *4 @79'*399 4 2*92/ =' + 2** 299350@)(4: 6)3@3'2*9 9 '))399 =29 ' +3 947 /3 4: +'9 64=3 *4 /2** +3 =4 ?9 532** +2 4: +3 /3* 7 '39$ @3/2793 +'9 =29 F + *4 2 $ 2*?' ?'?' *4 533 '** +3 /' (' @7 '** +3 :'3)? 4: 299 : 45 =+3*/3 +3 "3)'2 '9 *4 '** 9'<+ 4 +3 /7 '39 +3** ?'?' +3 6 46493 +2)2=@(' =+'/+ =+43;3 2'53? 2 797 6'*< E'*<)(' 64=3

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' ; , 1' 4"82-(. 5'-' ,"@1' ' +, (,' -'I2-'" "-'! D1!*' '0')1' "' 4 -'"D1' 60.' " ' "-' 60.' % ' . ("8' 41.(,"8' -, 5-/ 8' (08- :1."))!1' 824)1.-/ ".1' 418' 081:')*' 08*- 2-/ @ 'IN' "2 ' .18'24' +"-' "' -4"!' #!"(1'? ."', 1.' +02!:' "@ 8 24' ,"@1')118' 8" 41:? 6.04' ', 1' 0. : 1.' 60!!0+1:' 8' ', 1' ! -' 1 ', 1.' ', 14' +02!:' ,"@1' (041')160.1' .:1" '

A 11' 5' F ' >' 0'1' /5' F

=+3 3' 4*' +3' *4 +3 *' /429' 4:' +3' '/2*'2*9' 4 (3' 4)43'9' 2*?' 2*4 579' 2/E*4=)3?<3?' +3 ' 6 4 3/ '*<' 27C +4 ' ($' : 33' +3*'/'2*' 4=*9')'E3' '/2' 36 '9' 2*?' 2?39' 2*?' +3' 352'*9' 4:' 2' 57) ' 7?3' F' 93)353* 9' =+'/+' @3:4 3' +3' 33E9' 3* 3 3?' +3' '9)2*?' +3' ('2*9' +2?' 649939' 4*' 3;3 (' +2 @47' 2*?' '9)3' 2)4*<' +3' /429' 2))' 47*?' ' 'Z.$Y +3' 2 +2<'*'2*9' 4@ 2'*3?' +3' 9253' 6 ';')3<39':4' +3' 452*' *'3 /+2* 9' 29' :4' +3' ' 4=*' ' 2 +2<3' ' 93):' 4*' +3' '@(2*' /429' 4' +3' =39' 4:' +3' 3 5c2*' 26g' 2*?' '*' 2 ?'*'2' +3' 452*9' 5'<+')2*?' 2*?' 2::'/E' 7' +3' 92)3' 4:' +3' ' /2 <439' =29' 4' @3' @(' 67@)'/' 27/ '4*G' 2*?' '*' +2 -/293' +3' 9 2 3' =29' 6)3?<3' 4' +3' :4 3'*' 53 /+2*' :4' +'9' 62(53* ' +'9' 4@)'<2 '4*' =29' =' +47' ?47@' 3/'6 4/2)' 2*?' =29' 2' =4:4)?' 2?;2*C 2<3' 4' 2' 9 2*<3 ' %4' =' +47' ' ' +3' =47)?' 3' +3' +2;3' @33*' '*' +3' +2*?9' 4:' 2' :3=' 54*464)'H'*<' +47939' $ 4' +2;3' 7*' +3' '9E' ':' +3' 94)?' +'9' <44?9' :4' 2' +'<+3' 6 '/3' 4' 2*' '*93/7 3' 67 /+293' 4:')49'*<' +35' 3* ' 3)('G @39'?39' 67@)'/' 27/ '4*' '*97 3?' +'5' 2<2'*9' +3' 3A2/ '4*9' 4:' +3' /79 45+4793' %4' 2))' ?7 '39' =3 3')3;'3?' 2//4 ?C '*<' 4'Þ63 /3* 2<39'4:' +3' ;2)73' 2*?' 64' @(' 2*(' :'A' 2@)3G' +3' ' 6 4?7/3' 54 34;3' =29' :2 53?' 47 $' 2*?' 94' +3 3' =29' 9 '))' 54 3' ?2*<3' 4:' 2*' 3A4 @' 2*' ';2)72 '4*

#4=*' 4' +3')2 39' '539' 2))' 452*' 67@)'/' ?4/753* 9' =3 3' 2 39 3?' @(' +3' 53* '4*' 4:' +3' /4*97)9' 7*?3' =+45' +3(' =3 3' ? 2=*' 76G' '*' 2 32 (' 54 3' 3963/'2))(' 97/+' 2' 9 2 353* ' /2**4' +2;3' @33*' 45' 3?' +79' ' ' 5'<+' +3' 32?' '*' +3' 32 (' ='+' +3' 2 '*9' +2' ' ' =29' /4*/)7?3?' @(' 6' 299'79' G 2*?' 29' 4)(@'79' +2?' *4' 62 '/7)2' 3294*' :4' '* 4?7/'*<' +3' *2539' 4:' +3' /4*97)9' 4:' +'9' 4=*' 2//4 ?' ' !' /3 2'*)(' /2**4' @3' R739 '4*3?' +2' +3' 2@)39' /4* 2'*3?' +493' 4:' 7 79' 2*?' 4 2 '79' 29' /4)C)g<739' +'9' +4=3;3' 4;3 + 4=9' +3' =+4)3' 9 4 (' +2' 2: 3' +3' ?32 +' 4:' 7 79' ' "2)3 '79' 352'*3?' 94)3' /4*C 97)' 2*?' 2' +2' '53' 3*2/ 3?' +'9')2=9$' 29' =3))' 29' +3

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97)9 ' ' +'9 2//47* ' 5'<+ ' @3 '*;3* 3?' '*' +3 :4))4='*<'
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/)2' 5' @3:4 3 2))' 4 +3 9 4 +'9 +4*47 ' 7 ' +3 579 '+2;3
@33*';3 (' 4)?$ 2*?' ':' +3 ?'3?' =+')3 9 '))' '*' 4::'/3' 4 2 '79
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4:' +3 26' 4)' ';(' +33?)399)(' 2?46 3?' +3!:2/ ' '479
9 2 353* ' 2*?' (3 ' +29 7/ 3 '79 29 /4*97)' '*' +3)'' ?'
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+3 3 '9 2*4 +3 ' ?'::3 3*/3 @3 =33*' +3 %29 " 4:' +3
=4 +'9 4 '2*9 :4 ' +3 (32 ' X ' =+3 3 #'4*(9'79 *2539
6' 2 /'79 2*?' ' 3 5'*'79 ' 4:' =+493 /4*97)9+'6 ';('
92(9 *4 +'*<' 4 +' 4:' +35' =3 3 /3)3@ 2 3?' '*' +3 +3 4'/'
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4"82-(. 5" ,"-' ',1' :02)!1' 8"41' 'A ' +, (,' ,"-' "!-0' 5"-"
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40.1' (04408!*' :180'1:')*' 'H ' ,"8')*' H' 0' 1;5!" 8' ', -/
' +"-' +. ''18' 0@1.' '3 "8:' +"-' "6'1.+".:' .161 .1:' '0' ',1' '
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'52:' 920-:"4' @1'1.1-' "2('0.1-' 808' 8@18 0' 2(.1' 24' (08'
-2!14/-"*-' @*', 4-1!6? ' ' 1.@ 2-/ 08' 8/@ ' F/-"*-' ',"'/
"6'1.' ',1'1;52!- 08'06' ".92 8 2-/ :20' (.1"' '-28" (c8-2!1-/ .2'2-'1"
. (5! 82-/ 5"'1.' 2(.1' "1/92' 1" ".92 8 2-' : (1)"'2.?0)' 920:'
-0!24' 1-" 2.)1' :152!-2-? 1" 8' 1I2-' !0(24' -2).07"'2-' 1-" "!1. 2-'
H2)! (c!"3 920' 40.'20' '14' "!'1.' 1-" 6"('2-'? 1" "!'1.' - 4 ! '1.

3*/3 +3 2**2)'9 9 @ '*< +35 '* 4 +3 2/ '4* '* +3 =2 =' + 4 93**2 :4 +3 92E3 4:5 6346)'*< +3 ;4'? 4: +3 4)? *2 2 ';39 =' + *2539 *? 9'*/3 #'4*(9'79 +'5C 93): 92(9 *4 +'*< =29 3/4 ?3? 4: +3' 4*97)9+'6 ';(2997 3?)(+3 3 2<2'* <';39 79 +3 4)? 2//47* =' + +3)329 2?7) 3 2 '4* * 7 + +'9 62' '9 9 7/E '* 4 :'))76 +3 <26 4:2 (32 29 2 3 93;3 2)4 +3 9$ 63 +269 2)94 4 @ 32E +3 93 '39 4: +3 "2)3 '2* /4*97)9+'69 : +3(2 3 3 2H3? +3* ?7 '*< +3 :' 9 :';3 (32'B9 4: +3 %29 " 4*3 4: +3 /4*97)9 '9 2)=2(9 2 "2)3 '79$ 4*/3 2 C /79 +3 4 +3 '539 7@)'/O)2 +2 +3 3 =29 9453 4 +3 /2793 :4 +'9 +2* 63 94*2) 2?5' 2 '4* 52(@3 '*:3 3? :'045 +3 3A 24 ?'*2 (+4*47 9 =+'/+ +2 +4793 '*+3 ' 3? : 45 +393 6 '5' ';3 '539 ;3 (4*3 4: +35 +29 2 9 4 (/4**3/ 3? =' + ' G '* +'9 52**3 +3(9 44? '* +3 @44E9 4: +3 /3 354*'2))2= =')/4*:'*3 5(93): 4 +3 :2/ 9

+3 "2)3 '" +2? 2'+4793 2 +3 @4 45 4: +3 "3)'2 +3 4*)(4*3 '* 453 4: =+'/+ +3 ?44 9 463*3? @2/E '* 4 +3 9 33 $ +'9 6 ';')3<3 +2;'*< @33* 2//4 ?3? 4 +35 3;3 9'*/3 +3 '53 =+3* 7@)'/O)2 4 2 /79 97525 3? 2A'579 3/3';3? 2 < 2* 4: < 47*? +3 3 4 @7')? 4* I +3(3*,4(3? +3 2 33E +4*47 4: =+'/+ +3 3 =29 *4 4 +3 3A256)3 254*< +3 4C 52*9G '* +3 /' /79 +3 452* +32 3 2J/4*96'/7479 6)2/3 @3)4*<3? 4 +35 =+3 3 2 /7 7)3 + 4*3 =29 3 3/ 3? E +3(=3 3 2))4=3? 4 @7 (+3' ? 32? =' +'* +3 =2))9 .G 2*? =+3* +3(44 +2? 3A/+2*<3? +3 4)?3 /79 45 4: '* 3 53* :4 +2 4: @7 *'*< +3 /4 693 2) +47<+ +3(?'? *4)'<+ +3 :7*3 2)B6')3 4* +3'

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Y 08*-2-/ @ F H!2'".(,/H2)!(0!' (045".1 ',1 1(!"4"' 08 :1 ".2-5 1-508- N

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['/3 4 ?3 3<'@''' '

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@7 '2)B< 47*?' +3' @'3 ' =29' 93 ' ?4=*' +3 3' 29' 2' 9(5@4)'/2)' =2(' 4:'6 393 ;'*<' +3' '<+ 'Z\J

+393' ?'9 '*/ '4*9' ':' 532* ' 29' 3=2 ?9' :4 ' 93 ;'/39' =47)?' 2)94' +2"3' @33*' @39 4=3?' 4*' 4 +3 9' =+4' 63 :4 53?' 57/+' < 32 3 ' 2/ '4*9C @7 ' *3' +3 ' 25'))79' *4 ' +3' #3/'"' @3R732 +3?B' 2*(' 97/+' +4*47 9' 4' +3' ' 649 3 ' (' +3(' /3293' +4=3;3 ' 4' 97 6 '93' 79' ':'B +3 3' @3' <44?' < 47*?' :4 ' +3' /4*,3/ 7 3' +2 ' 254*<' +3' < 2?72)' /+2*<39' 4:' +3' /4*9 ' 7 '4*'\.' +3' "2)3 '2*' +4793' :4 ' 2' '53' 649939 ' +3' '<+ ! +2 ' 4*3' 4:' '9T' 535@3 9' 9+47)?' 3A3 /'93' +3' E'*<)(' 64=3 ' :4 ' +3' ' '39 ' 9' 944*' 29' =3' 2E3' +'9' 64'* ' 4:' ;'3=' +3' 53297 39' :4 ' 3563 '*<' +3' /4*97)2 ' 64=3 ' @3<'*' 4')44E' 29' ':' +3(' +2?' 2' +'9 4 '/2)':47*?2C '4*' 2(' 3;3*' +3' 9 4 (' +2 ' "2)3 '79' 67))3?' ?4=*' +'9' +4793' 2 ' +3' 46' 4:' +3' "3)'2 ' 2*?' 3/3';3?' 2' 964 ' 2 ' +3' :44 ' 4:' ' ' @3/4539' '* 3)+<'@)3' 3*47<+' ':' +2 ' 2/ ' @3' 3<2 ?3?' 29' 2' 6)3?<3' 4:' +'9' '* 3* '4*' 4' 3A3 /'93' +'9' 4(2)' 27 +4 ' (' 29' @3933 5R?' 2' /' 'H3*9 I

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4 +3 9' '*' +3' +' ?' (32 ' 4:' +3' 4554*=32) +' '9' :2 '
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2 4=')'5' 9 =' +'' =+'/+' +3 4)?' 452*' 52**3 9 2*?')2=9 2'53?' 4' /4*:'*3)2*?3?' 6 463 (J 92)7 2 (' 29 +3(' =3 3' 4' +3 9 2 3' ?'?' *4' 4*' +2' 2//47*' 2/' +3 54 3 29 2 /+3/E' 4' +3 ?39' 39 4:' '*?';'?72)9 =32) +' +29 '6' 2))' 2<39 @33*' ?3353?' +3 6)3292* 39' 533?' 4:' ;' 73$ 2*?' 29 +3 643 9 '*' 6' 79 2*?' 4*')(5679 9'*<' 4:' +3 <4)?3*' 266'*<9 4*' +3 +4 939 4:' +3 E)36 9' 2*?' 4:' +3 <4)?3*' 2'53*' 4:' +3 ?2593)9$ 94 +3 $ ')'E3='93 :2@)3?' 4:' 97/+' 96)3*?'?' 3=2 ?9 :4' 4?39 2*?' /c;4)2' 29 *C *'79 =47)?' *3;3' +2;3 ? 325' 4:' 29 2 2'*2@)3 @(' /'6'4 : '/2*79

Q 79' 29)')3 ?'?' +3(' 47@)3 +3593);39 2@47' +^' ?'::'/7) (' +4=' 453 /47)?' @3 9 2 ;3?' @(' 2*' 3*35 (' =+4 =29 4*)(' 3*/256' 4*' +3 2*'/7)75' 3;3*' 976649'*<' +'5' 4 +2;3 /45 52*?3?' +3 ';3' 4 2//47*' :4' +'9' +3 2**2)'9 9 ?3;'93?' /3 2'*' 6 3?2 4 (' 3A63?' '4*9 4*' +3)3:' @2*EG 2*?' +3*' 4 9766)(' +3 ?32 +' 4:' 2/ '4*' 2*?' ?4 +4*47' 4 +3' '2*/39 4 9' +3(':7 +3' '*;3* 3?' 2' 9 2 2C <35' 4:' +3 /4*97)9' @(' =+'/+' +3 79/2*9 2 3' ? 2=*' '* 4 2 9*2 3' 2*?' 97::3' /4*9'?3 2@)3)499

%4' +3 6435' '' =29 3*47<+' +2' 453 "' 3?7/3?' 4' ?3963 2 3' 9 2' 9 @(':25'*3' 3 3764*' 2' (47*<' 52*' 2'79' 7*?3 44E ='+' +3 266 4@2 '4*' 4:' +3 93*2 3' 4 E'))' +3'*;2?'*<' E'*<' 3 =29 2/R72'* 3?' ='+' +3 79C /2*')2*<72<3' 2*?' 52E'*<' +'9 =2(' 76 4' +3 6 3 4 '75' 9)3=' 4*3' 4:' +3 E'*<0 2 3*?2* 9' '*9 32?' 4:' 4 93**2' 3'*<' 4;3 64=3 3?' 2*?' ?'92 53?' '*' 9/4 *' 4:' +3 2/E =+'/+' 2=2' 3?' +'5' +3 + 79' +'9 '<+' +2*?' '* 4' +3 :)253 4:' +3 :' 3 4*' +3 2) 2' +3 E'*<' @2?' +'5' ?662' '*' 632/3 2*?' /c;4)2' 29 : 45' +2 B?2(' :4 +' +3 =29 /2))3?' @3/2793 +3 *4=' +2?' 4*)(' +'9)3:' +2*?' =2 *3?' +'5' 29 2 4E3*' 4:'< 2' 7?3' ':' +3 6 'H3?' +'9 +:3' 4' 52E3 632/3$:4' +2' + 33 +7*? 3?' (47*<' 62 '/'2*9 +2?' /4*96' 3?' 4' '?' +3' ' /47* (' 4:' +'5$ 2*?' '3 +'593):' +2?' 4*)(' @33*' /+493*' @(')4' 4' @3 +3 :' 9

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3 J"29 3=2 ?3?@(' +3 93*2 3 *4)399 96)3*?'?)(' +2*
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97)9+'69 ' ='))' 5 (93):' 97<<39 ' +3 94)7 '4* ' +2 ' 2 ' 453
44 +3 /3 354*'2)')2=' 3R7' 3?' 2 6 '39 ' 4 +3 =' +47 '
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=29 ' 7/'79 ' +3 579 !+2;3 @33*' 2 6)3@3'2*$)'E3 +3
:25')(' 4:' +2 ' *253 ' =+'/+' 26632 9 '*' +3 %29 ' ' +47<+'
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@2/E +79 +3 +3 4 4: +3 4)7)2(9 =47)7 6 4@2@)(' @3 53 3)(' /2))3?' 2'79' +2 ' +3 =29 4 '<'*2))(' 3<2 ?3?' 29 2' 62 '/'2*' 29 #'4*(9'79 3 59 +'5 Y =+'/+' '*?33?' ':' +3 =3 3 2 7/'79' /47)?' 4*)(' @3 3A/792@)3 : 45' +3 '<*4 2*/3 4:' 2 :4 3'*3 Y '9 +3 54 3 6 4@2@)3 4*' 2//47* ' 4:' +3 + 33 +7*? 3?' (47*< 53*' 4:' =+45' +3 9632E9 29 +'9 2994/'2 39 '*' +3 3* 3 6 '93' +3 :)4=3 ' 4:' +3 452*' (47 +$ +2 ' '9 4 92(' 4*3 : 45' 3;3 (' +4793G +3 +'5C 93):' '9 /2))3?' *4@)3 @(' ';(' +3 97 *253 4:' +3 7/'" 2//4 ?'*< 4 "2 s +2?' 2 4 2))(' ?'::3 3*' 93*93' 2*?' 9'<C *':'3?' 2*' 257)3' $ ' '=29 *4 '63/7)'2 ' 4 +35'G /23;2 P44 =29 2 97 *253 '*' 93;3 2)' : 5')'39G @7 ' 29 $ ' 532*9 (' +3 +3 4 4:' +3 9 4 (' *''<+' 2)94 @3 /2))3?' /23;7)2')4*< @3:4 3 +3 7/'" =3 3 4:' 2*(' *4 3

9 +3 6 '/3 4:' 632/3 +3 /4*R73 4 ' 3*,4'*3?' +2 ' +3 "3'3* '*39 9+47)?' +2;3 +3' '93;3*' 39 4 3?' 4 +35.JG 2*?' +3 :4 ' 4*' +3 2*'/7)75' =29 4*)(' 3;2/72 3?' 4*' +3 ?3)';3 (' 4:' +49 2<39' +79 :2 ' ?'?' +3 :33)'*<9 4:' 2 54 3 93*9' ';3 2<3' =47*?3?' @(' +3 ?'9< 2/3 4:' +3' ' 2*/39 4 9' 94: 3*' ?4=*' +3 / 73)' +2 ?*399 4:' +3 7 +' 2/' 79 2)4*3 6 4*47*/39 +3 3 '@)3 =4 7' 7*?'9<7'93?)('G +3 /' (' =29 :4 /3?' 4 97 3*?3 ' 4 +3 /4*R73 4 ' $ +2 ' '9 4 92(' 97@5' 3?' 4 +'5' 29 +3 ')4 7'$ '*' 97/+' 2 =2(' +2 ' +3 367@)'/' 52?3 4;3 ' +3 94;3 2'* (' 4 +'5' 29 ?'?' 3;3 (' '*?';'?72)' 2 ?'9/ 3 '4*2 (' 64=3 ' 4;3 ' +'9 6 463 (' : 33?45' 2*?')':3 =' +47 ' 2*(' 39 '/ '4*' ';2*R7'9+ ' 9 2 3 2: 3 ' +'9 9 44?' '*' 2 3)2 '4*' 4 2 7)'*< 4*3)'E3 +2 ' 4:' 2*' '*?';'?72)' =+4 +2?' :4 :3' 3?' +'9 '*?363*?3*/3

1 ' " ' 5' FF? M20:' 521.2! -' .1-' '2.5 (2!"' 8 (0!!0 -2-518: '2./=-("1@0!"' "551!!"'"? ', 2-' ', 1 !0.18' 81 Y 1 "7.0 1 18')2-' .1-' '218:0 '-"*-' @*? 081 ("880" .1":' -2(,' "..07"8"!"872"71'+ ', 02" 8: 78"' 08

1:14' 0@ -' 5' ";' 92"4' 808 H0.-188"' ' d1921 C"%' ("5'"/'141."1' 50'2 --18"? H! -' ' B ' "D18' -'. ('!*/' ', 1' 41"8 87 06 "('2-' +02!:')1/', "' H0.-188"' ,":')118 28")!1' '0 @0Z !"'1', 1' 145!1/"8:' (08-19218'!*', "' ,1' +"-' 80" 4"-'1.' 06', 1' "G 5 '0!? " -'! D1!*', 0+1@1.' ', "' 8 2- 87 ' ,1' .161..1:' 08!*

@(' 2*' 2?46 '4*' 2//4 ?'*<' 4' +3' 6 4/399' 4:' 2 4<2 '4*'
4 ' @(' +2;'*<' 6)3?<3?' +'9' 63 94*' :4 ' ?3@ . l . .' 3' =+4'
/329 ' 4' @3' +'9' 4=*' 529 3 ' 4*)(' 3 2'*3?' =+2 ' +3' +2?'
+' +3 4' 649939 ' 29' 6 463 (' 7*?3 ' +3' h 5' 4:' 2' +'
' +3' /293' =29' +3' 9253' =' +' 2' 9 2 3' +2 ' +2?' <';3*'
76' ' 9' ' ' 4' 2')4 ?' 94' +2 ' +3' 5 '<+ ' 2E3' 3;3 (C
+'*<' : 45' ' ' 2 ' = '))$' 2*?' *4 ' 4*)(' +3' 67@)'/' 6 463 ('
@7 ' +2 ' 4:' 3;3 (' '*?';'?72)' +'9' ?'92@')' (' ?'?' *4 ' 3 C
5'*2 3' 7* ')' +3' /262/' (' 4:' 63 94*2)' '<+ 9' +2?' @33*'
339 2@)'9+ ' @(' 2' 6 4/399' 2*9=3 '*<' 4' +2 ' 4:' 352*/'62C
'4* ' ' =29' 2' 62 '2)' 3A3 /'93' 4:' +'9' 6)3*2 (' 64=3 '
=+3*' 2' 4=*' +7' 3?7/3?' 4' ?363*?3*/3' =29' 253 /3?'
4:' 2' /3 2'*' 64 '4*' 4:' ' 9' 3 ' 4 (G 2*?' +'9!=29' ;3 ('
: 3R73*)(' 2' +' ?' : 3 =2 ?' 7*)399' +3' 352'*?3 '
=29' 3A6 399)(' <';3*' @2/E' :'B3' 2' 2A' 4*' +3' 6 4?7/3'
4:' 2))' +3' /7) ';2 3?')2*?' =29' 4' @3' 62'?$' =+'/+' +3'
452*9' 7972))(' 29939 ' 2 ' 2' 3* +' ' +2;3' @3:4 3' /2))3?'
+3' 32?3 B' 2 3* '4*' 4' +3' :2/ ' +2 ' 2' +' ?' 4:' +3'
6)3@3'2*' ?'9 '/ 9' =+'/+' 453' 649939 ' 7*?3 ' 3 ;'''9' 7)C
)'79' =29')49 $' 2*?' ' 4@93 ;3?' +2 ' '''9')499' 579 ' +2;3'
@33*' '*/7 3?' '*' +3' =2 ' =+'/+' =3' /2))' +3' =2 ' 4:' 4 B'
93**2. ' +3' 53* '4*' 4:' +3' 93;3*' ' '*' +3' **2)9'
?439' *4 ' 6 4;3' +2 ' *4 +'*<' 54 3' =29' 2E3*' 2=2(' 7 '
2' 2?' '4*' +2?' 2)94' @33*' 6 393 ;3?' +2 ' +3' 452*9' 2 '
4*3 ' '53' 62'?' 2' 3* +' 4' +3' 79/2*9' G 2*?' +'9' 44'
/2*' 4*)(' @3' 3:3 3?' 4' +3' 6 393* ' 63 '4?G ' ' =29' 2'93?'
4*' +3' ?'9 '/ 9')3: ' 4' +35 ' 2*?' 4*' +3' 67@)'/' ?452'*
* ')' +3' 4=* ' =+'/+' +2?' 97 3*?3 3?' ' 9' '*?363*?C
3*/3' 4' 2*4 +3 ' 3/4;3 3?' ' ' *4' 32 (' =' +' ' ' /47)?' +2;3

AKA 8' ',1' 60.42!"'.*' 60.' -2..18:1. 87' "' ('*' 8' @*/ ' /' ',1'
D 87' "-D-' ',1' 18@0*-'? -'81' 5052!2-' 0%"' 22-' 8' -2"' 50'1-'8'1' ='
-' = 1:!' -81' @0-/ 5052!24921' 0%8' 824/2.)14/ "7.0-/ "92" 4/
'h.4 80-/ :1!2)."/ 2'18- ! 0/ : @ 8"' ,24"8"921' 048 "/ 8' 41"4' 50 '
52! 921' 04"8 ' : ' 0814' f = 1: 42- = "' 170' '1(5 0
A >')0@1/5 ' F/ 8 ' FB

$C' 2= =' 7 & 7"' %7 7 7% =7C ' =+ ' ' $' '+I ' =7 '
2? F $27' "' ' & + =' O&+7' ' $C ' (?

X 4 / ' ' ⅈ

6)2/3$' ,79 ' 29B' 2*' '*?';'?72)' /47)?' *4 ' 3* 3 ' '* 4' 2*(' /4* 2/ ' =' +' +493' =+4' =3 3' 97@,3/ ' 4' +'9' 62 3 *2)' 27C +4 ' (' 4 ' =' +' +'9' 9)2;39' 2*?' @4*?53*')'*(' +3 3:4 3' 3' +3 ' 7939' 2' "3 (' '*266 46 '2 3' 3A6 399'4*$' 4 ' +3')2=9' '56493?' @(' 4 93**2' 4*' +3' 452*9' @3)4*<' 4' +3' '53' =+3*' 2 ')329 ' +3' :4 5' 4:' '*?363*?3*/3 ' +47<+' ?3:3*93)399' '*?33?' 2*?' 5'))' =29' <';3*' @2/E' 4' +35 ' +'9' ?4/753* ' =+'/+' : 45' +'9' 52**3 ' 4:' /' '*<' ' =47)?' 9335' 4' +2;3' @33*' 9 '))' '*' 3A'9 3*/3 ' 9+3=9' +4=')4=' +3(' +2?' :2))3*' +3(' =3 3' 3A6 399)('6 4+'@' 3?' : 45' 356)4('*<' ' 4*' :4 ' 2*(' 4 +3 ' 67 6493' +2*' 2< '/7) 7 3' ' 6346)3' 4*' =+45' 2' /45 52*?' 4:' +'9' E'*?' =29')2'?' 579 ' +2;3' @33*' /45C 63))3?' @3:4 3+2*?' 4' ?3)';3 ' 76' 2))' +3' ' 2 59

' /4*:399'4*' +2 ' 453' ?'?' +452<3' 4' 4 93**2' 29' ' 9' 94;3 2'*')4 ?' '9' '*;4);3?' '*' +3' 9 4 (' +2 ' +3' 93*2 3' 93* ' +'5' 2*' ';4 (' + 4*3' 2*?' +3' 4 +3 ' @2?<39' 4:' 4(2) (' :4 ' '*' +'9' ;3 (' 52**3 ' 2 3' +3' 79/2*' /' '39' 36 3C 93* 3?' 4' +2;3' 2/E*4=)3?<3?' ' 2 R7'*'79' '94*9' 29' +3' ' 6 '*/3

+2 ' ';(' 92(9' /4*/3 *'*<' +3' 3;2/72 '*<' +3' /' 2?3)' 4*' +3' 2*'/7)75 ' 9335 9' /4**3/ 3?' =' +' +3' 39 4 2 '4*

H! 8*/' 'Q ' ; ; ; @ ' F'? 8'1 ' 920:' 1;52!- - ' .17)2-' 5052!0' 04"80' :1: '' H0.-188"/' ' ' ' 81'61..0' 8 - ' 8' "7. ' (2!'2."4' 8'1.18'2. ' , -/ "8:' ', 1' 192"!!*' 4G 50.'"8'' 5"--"71' 06' "('2-'$80'1' #/ +1.1' 6 .-'' 80' (1:')*' 1"2G 60.''? "8:' ',1*' ".1' 51.61('!*' -26! (18' 60.' , -' 52.50-1/ +, (,' +"-' 41.1!*' 817"' @1 ' ,1' (. ' ("! 1;"4 8"' 08' 06' ', -' +".' -' ',1' 40-'' -2((1--62!' 5"." 06' ', "'' .14".D")!1' ! ''!1' +0.D

; ' ' W ' ' 2$& % H7 =7' 2+I' $ ' 7 ?K' =7' ' $ I ' ' =7' = ' $ +?' 27 7' 'F7+L ?K' $ ' +' $2?' 2= =' =+% '&HM C 7% ?' =7' '+C7' C+??7 ' $ =7' $C+?' ' $?I ' &'' %$7'' ?$ ' + ' + ' '=$ ' $ ' = '' $?7' ' $?' ?' +'=+ +?K&7' F& ' ? $ =7' C$& =' $ ' ' >+ 7 &'E' L a 0' ' 2 ' ' 9 ' " ' 0LL'' @ :-' D q ' % J ' % $ ' .!' ' " % " - ' ! ' 8 ' ' N ' = '' '' ?$ ' ?%77% v v a ' %# &8 ' +?% '$&?%'' + =7 E +'' ' + ' 2+'' %$?7' ?' $CF +? 7 2 =' +' C + I' 7N& ' $?B =& ' =+' '' =7' 7 I' F$ ' 2=7 7 =7' % 'K& '7' 7'

08*- 2-/ @ ' 1 ' 11' ")0@1/ 5 ' F

4:' '*?363*?3*/3' 4' +3' /' (' 2: 3 ' ' +2?' @33*' ?'92 53/ '
+3' =3* (' 62 '/'2*' +49 2<39' @4(9' 2*?' ?2593)9' 3:3 '
29' '9' /)32 ' : 45' +3' ' *75@3 ' 4' +3' /7 '39' 4:' +3' :' 9'
=4' '@39'$ =+493' 6 3/3?3*/3' 3A 3*?3?' 29' p29' 3294*2@)3'
4' =+2 3;3 ' 92/ ':'/39'=3 3' 4' @3' 52?3' ' +' 3<2 ?' 4'
+393' +49 2<39' +3 3' '9' 2<2'*' 2' =4:4)?' 9 4 ('G +3' 54 3'
/3)3@ 2 3?' 4*3' +2 '))'2' 3::3/ 3?' +3 ' 39/263' R7 ' 4:'
7 '2' 2 ' +3' +32?' 4:' +3' 52'?3*9' 2*?' 9=25' 2/ 499' +3'
'@3 '$ +2 ' 9+3' =29' 93* ' @2/E' =29' 39 4 3?' 4')'@3 ('@('
4 93**2' 2*?' 2))4=3?' 4' ?3)';3 ' +3' @4(9' 47 ' 4:' +3' '
/26 ';' ('$ 2*?' +2 ' 9+3' =29' 3=2 ?3?' @('+'5'=' +' 2' +4 93'
266'*<9' 2*?' 2 59' 2*?' @(' '3 367@)'/'=' +' 2' 9 2 73'
4:' 2' ?2593)' 4*' +4 93@2/E' '*')'3' "'2' 2/ 2GY +3' 54 3'
4@9/7 3' 4*3' +2 ' 2'!R7'*'79' :3))' 764*' +3' +49 2<39' 29'
+3('=3 3' /4*?7/ 3?' '* 4' +3' 79/2*' /256$ 2*?' =' +'
+3' 3A/36 '4*' 4:' "2)3 '2'=+4' :)3?' @2/E' 4' +3' /' (' 529C
92/ 3?' +35' 2))ZZ

4 93**2' 532*=+')3' +2?' 3 7 *3?' 4')79'75' 3'
+2?' 93*' +'9' 94*' 7*9'=' +' 2' 62 ' 4:' +'9' 2 5('2<2'*9'
'/'2' '*' +493' ?2(9' +3' 6 '*/'62)' /' ('4:' 2 '75'..' +3'
'/'*39' 3/3';3?' 97//47 ' @4 +' : 45' 4 +3 ' /' '39' 2*?' : 45'
752'G 2*?' +3' 752*9')3?' @(' +3' '*97) 3?' +3 4' 4:' +3'
(+3*'2*' =2 ' ?3/'?3?' +3' ?3:32 ' 4:' +3' 79/2*9'
=+493' <3*3 2)' :3))' +3' :7<' ';39' 53 ' =' +' +496' 2@)3'
3* 3 2'**'3*' 2 ' 453' 2*?' +3' ' =47*?9' =3 3' 2E3*

08*- 2-/ ' A' "8:' ',1' 6."7418" 6.04' ',1' 602.',')00D' 06'
08' "-- 2-/ 8' 1DD1.J' 81(:' ' 5' ' ' $0' 1' ' F)'
0I.L"" ' # ' $ ' ,1-1' +0.:-' 1@ :18'!*' .161.' '0' ',1'
D 87?' 8' @*' ',1-1' 5.1-18'-' "!-0' ".1')1-'0+1:' 08' !01!'")*' '! 1'
04"8-' >

Y' H! 8*/ 111 " ' ' ,1' '+0!-'0. 1-' ".1' (!24-!*' 4 ;" 25'
'071',1.')*' 08*- 2-/@' /"8:')*' H!2'".(,/H2)! (0!' (' F

0.' ', -' .1"-08' " ,":' ',1' '1451!1'06' "8" ' ,1'0550-' 08'
+, (,' ".92 8 2-' -2-'" 81:' 6.04' 2.82-' 1.:08 2-' (08'" 8-'"' .161.G
18(1' '0' ',1' 5.1'18- 08-' "8:' ',1' (.(24-'"8(1-' 06' ', -' ('*3 -0' :01-'
',1' "((028" 8' 08*- 2-' S@' N # 06' ',1' .(81-' 1;('87' "' 24' '0'
+".' "7" 8-'! 041

/2 3 4: 2*(4: +35 =3 3)4 + 4)32;3 +3 /' (2<2'* 2*? @7') +3 "'/79 79/79 4 93**2'*4 4@3 47 ?4*3 '* 52<*2*'5' (<2;3 @2/E +3 +49 2<39 2*? +3 93;3*

+3 452*2**2)'9 9 52E3 +3 79/2* +3 4 ?'96)2(' +'9)'@3 2)' (2 +3 3A63*93 4: +'9 ?363*?3* 9 4 2))'39$:4 +393 +2? @33* 39 4 3? 4 "3'' 4 ': +'9 +2? 4//7 3? 4 +35 =47)? +3(' +2;3 @33* 9)4='*? ?3B ;'95< 9453 2/ 4: 63 :'?(' 4 4 +3 @(' =+'/+ +3 "3'3*B '*39 9+47)? +2;3 3A2963 2 3? +3 *4@)3 96' ' 4: +3' 6 4 3/ 4 4 67*'9+ +35$,79 29 2)'E3 '*?7/353* =29 /4* ';3? 4 52E3 +'5' 2@2*?4* +3 2AR7'*9 7 3;3* '* +3 '53 4: +3 ?3/35;' 9 94 :2 =3 3 +3 452*9 : 45 +2;'*< 3<2'*3? +3' 79/2* 3 '4 (' +2 +3 '@3 :4 53? +3' @47*?2 ($ =' + +3 '*9'<*':'/2* 3AC /36 '4* 4: +3 2*'/7)75' 2*? +3 <3 "2 '/2*79

3 3 +3 452*9 '*/262@)3 4: :33)'*< +2 /+2'*9 =+'/+ =3 @7 9 @(' 47 4=* ;2)47 2 3 2* 4 *253* L +3 ?3:32 4: +3 79/2*9 @3:4 3 '/'2 '9 7*R739 '4*C 2@)(' +'9 4 '/2: +3 ;'/ 4 (' 4: +3 752*9 =+'/+)3? '9 4?3579 4 +3 94;3 2'* (' =29 3)2 3? '* 33E 2*C *2)9 2? *4 +493 4: +3 452*9 + 47<+ :2)93 9+253 /4*/32)3? +3' 6 3;'479 +75')'2 '4* +3(' 5'<+ +2;3 4)? =' + '756+ +4= +3' 2*/39 4 9 +2? /47 2<3479)('93'H3? +2 5453* 2) +47<+ ?36 ';3? 4: 2 59 2*? 63 ')'* +3 4@,3/ 9 4: +3' ?32 39 2::3/ '4*9 4 @ 32E)'3 (4E3 4: +3 (2* 97/+ 2 '53 +3 :)'<+ 4: +3 +49 2<39 5'<+ ?4 9453 <44?$ 2*? +3 +3 4'*3 =+4)3? +35 5'<+ ?393 ;3 4 @3 3=2 ?3?

+'9 '*97 3/ '4* 579 +2;3 6)2/3? 97*? (' +'*<9 @3C)4*<'*< 4 +3 :4 3'* 6 '*/3 =' +'* +3 /' (2 +3 ?'96492)

I60 :02)" ',1 '.": '08-+1.1 -'!!. (,1. 8 8: @ :2"! 8G -'"8(1- 06 '" (, @"!.02- 8'1.(02.-1 :2. 87 ',1 +".+ ',HO.-188" ,1 60!!0+ 87 - "--2.1:!* "8 "8(18" 081 '.2(1 ,":)118 (08G (!2:1:3 "8: " ,"55181:' ',"" -041 7"41- +1.1 (1!1)."'1:' "' ',1 -"41' 41 ,1.12508 ',1 2-("8 7181."!- ("41 8'0 ',1 ('*/ +08 ',1 (.0+8/"8:.1(1 @1: ' 1.@ 2-/08 8 ;

4:' +3' 352*/'62 3?' 452*9'$ 2*?' +79' *4' ?47@ ' <2;3' '93' 4' +3' 9(5@4)'/2)' /79 45' 2 ' 27/ '4*9' 4:' 93))'*<' +3' <44?9' 4:' E'*<' 4 93**2 ' ';(' =+4' :47*?' ' ' 9 '))' '*' 3A'9 3*/3 ' :3) ' +2 ' ' ' ?'?' *4 ' 94 ' =3))' =' +' +3' 9 4 (' 2@67 ' +3' : '3*?C 9+'6' +2 ' :4))4=3?' +3' 0(2 G 4*)(' +3' 47<+ ')'E3='93' 4' +2;3' 3,3/ 3?' +3' 9+2))4=' 3A6)2*2 '4*' 4:''

+2 ' 4 93**2' ;29' 2' +3 4' '*' +3' 79/2*')3<3*?9 ' 2*?' +2 ' +3(' 579 ' +2;3' 6)2/3?' +'5' '*' ;3 (' 3543' 2<39' @3(4*?' +3' 32/+' 4:' +'9 4 (' 93359' '56)'3?' '*' +3' :2@7C)479' 2//47* ' 4:' +'9' 54*753* $' 2' @7')?'*<' 4 2))(' '*/4*C /3';2@)3' 3A/36 ' 29' +3' =4 E' 4:' 52<'/ ' 2*?' ;+'/+' 579 ' +2;3' ;2*'9+ ')'E3')2??'*09' 62)2/3' . ' 499'@)(' +3' 452*' 2?' '4*' 52(' ;' +47 ' 2*(' < 47*?' +2;3' /4**3/ 3?' +'5' =' +' +2 ' 79/2*' =2 ' =+'/+' /29 ' 453' ?4 ;*' : 45' +3 ' +'<+ +' +7' 57/+' =3' 52(' 2993 ' +2 ' 4:B +'9' ;2 ' ?4 ;*' 4' ' 9' 3*?' *4 ' 2' 9'*<)3' '*/'?3* ' /2*' 6299' :4 ' +'9C 4 '/2)

' '9' 2' 63/7)'2 ' (' 4:' +3' 452*' 2**2)9 ' 4='*<' 4' +3' @2 3*' '*;3* '4*' 4:' +3' ' 27 +4 9 ' 4' 3632 ' +^' 9253' '*/'?3* 9' 4*' ?':::3 3* ' 4//29'4*9 ' 2*?' +2 ' 44' 54 3' +2*' 4*/3 +79' +3' 9 4 (' 4:' 4 93**209' =2 ' 3:)3/ 9' +3' '52<3 4:' +2 ' =' +' " 3'" '*' +3T (32 ' k =+'/+ ' 2: 3 ' +3' ?'929 3 ' 4*' +3' 353 2' @ 47<+ ' 453' 4' +3' @ '*E' 4:' ?39 7/C '4* ' *' +'9' 2<2'*' +3' " 3'3* '*39' 52E3' +3593);39' 529C 3 9' 4:' +3' 2*'/7)75'$ 2*?' '*' 2' 54 3' '* 3))'<'@)3' 52**3 ' 2: 3 ' 2' ;'/ 4 (' '*' +3' :'3)?' 3 3' 2<2'*' +3' /' (' '9' 92;3?' @(' 2' 4 2 '79$ +3' /4*97)' =+4' 2 ';39' =' +' +'9' 2 5(' 2 ' +3' / ' '/2)' 5453* ' @(' :4 /3?' 52 /+39' : 45' +3')2*?' 4:' +3' " 4)9/'2*9 ' +3' ;'/ 4 9' 3*/256'*<' 4*' +3' 2*'/7)75 ' 93*?' 47 ' :4 2<'*<' 62 '39' 2/ 499' +3' ';3 ' 2*?' =293' +3' /47* ($' 7* ')' +3' ' ?36 3?2 '4*9' 2 3' /+3/E ' @(' 9453' 9E' 5'9+39' =+'/+' 2<2'*' 2E3' 6)2/3' @(' +3' 356)3' 4:' 463' 2*?' 2 ' +3' 4))'*3' <2 3' G (3 ' 2' 93;3 3' :25'*3' 2 '939' =' +'*' +3' z (' ' +3' 9253' '53 ' +47<+' 2))' +'9' +29' 4*)(' @33*' 2*96)2* 3?' '* 4' +3' =2 ' 4:' 4 93**2' 4' :'))' 76' +3

;2/2*ʻ 962/3ʻ +3ʻ)2 3ʻ 'ϑ *4ʻ 4ʻ @3ʻ 3<2 ?3?ʻ 2ϑ 2ʻ 53 3ʻ 9+2?4=ʻ 2*?ʻ 3/+4ʻ 4:ʻ +3ʻ 4 +3 ʻ 2ϑ 'ϑ +3ʻ /293ʻ =' +ʻ 4*3ʻ 4:ʻ +3ʻ 7 7*/'2*ʻ=2a9ʻ ʻ=2ϑ +2ʻ 79/2*ʻ=2ʻ@(ʻ=+'/+ʻ 453ʻ +47<+ʻ' ʻ)': 3?ʻ ' 93):Bʻ 76ʻ 2<2'*ʻ 2*?ʻ 3<2'*3?ʻ ' ϑ '*?363*?3*/3ʻ)49ʻ 3*ʻ 3<'4*ϑ$ 2*?ʻ ' ʻ 579ʻ @3ʻ 6)2/3?ʻ @3:4 3ʻ +3ʻ (32ʻ \ʻ =+3*ʻ +3ʻ '@39ʻ=3 3ʻ 2'93?ʻ 4ʻ +3ʻ *75@3ʻ 4:ʻ 4*3ʻ 2*?ʻ =3* (ʻ ʻ +'*Eʻ +4=3;3ʻ' ʻ=2ϑ 2ʻ *4ʻ< 32ʻ?'9 2*/3ʻ: 45ʻ +2ʻ 63 '4?

ʻ +4)?ʻ +3ʻ 3 7 *ϑ 4:ʻ +3ʻ /3*979ʻ '*/ 3?'@)3ʻ 2ϑ +3(ʻ 947*?ʻ'*ʻ +3ʻ '539ϑ 2* 3 '4ʻ 4ʻ +3ʻ /4*R739ʻ@(ʻ +3ʻ 27)9ʻ 4ʻ @3ʻ 2ϑ <3*7'*3ʻ 2ϑ +3ʻ 452*ϑ /4*9'?3 3?ʻ +35ɠ 2*?ʻ '))ʻ ʻ+2;3ʻ,79 ':'3?ʻ +'ϑ /4*:'?3*/3ʻ'*ʻ +3ʻ 6 463ʻ6)2/3ʻ,ʻ +3(ʻ='))ʻ 2ʻ2)ʻ 3;3* ϑ @3ʻ 2?5' 3?ʻ 4ʻ 36 393*ʻ 2ʻ;'3=ʻ +2ʻ=2ϑ 2E3*ʻ 4:ʻ +3ʻ <4=+ʻ 4ʻ?3/)'*3ʻ 4:ʻ +3ʻ 452*ʻ 9 2 3ʻ 2?ʻ 2*ʻ 2**2)'9ʻ'*;3* 3?ʻ +35ʻ +3ʻ =47)?ʻ +2;3ʻ :253?ʻ +35ʻ 4ʻ :'ʻ +'ϑ 9 4 '39ʻ :ʻ +3*ʻ +3(ʻ2 3ʻ7 3)(ʻ ' 3/4*/')2@)3ʻ='+ʻ +3ʻ **2)9ʻ +3(ʻ579ʻ+2;3ʻ@336ʻ+2*?3?ʻ ?4=*ʻ:45ʻ 2ʻ '53ʻ /4*9'?3 2@)(ʻ 32)'3ʻ 2*?ʻ 94ʻ2 3ʻ '5ɕ 64 2*ʻ 4=ʻ#'4*(9'7ϑ <';39ϑ +3ʻ 3 7 *ϑ 4:ʻ +3ʻ (32 ϑ Xmʻ. mʻ 2*?ʻ mʻ@(ʻ +3ʻ *75@3 ϑ ʻ k ʻ2*?ʻ ') ʻ *ʻ 47ʻ 2**2)9ϑ +3ʻ=2ʻ='+ʻ 4 93**2ʻ:2))9ϑ @3ɕ =33*ʻ +3ʻ:' 9ʻ 2*?ʻ 93/4*?ʻ ?2 3ɠ @3=33*ʻ mʻ 2*?ʻ mʻ +3 3ʻ 'ϑ *3' +3ʻ 2ʻ 639 ')3*/3ʻ *4ʻ 2ʻ)499ʻ 4:ʻ 3 '4 (ʻ('@7ʻ 4*ʻ +3ʻ /4* 2 (ʻ +3ʻ ;'/4 (ʻ 4;3ʻ +3ʻ 2'*9ʻ 4+'*<ʻ /2*ʻ @3ʻ 54 3ʻ '*/4*< 7479ʻ :ʻ +4=3;3ʻ=3ʻ ?4ʻ *4ʻ)3ʻ 47 93);39ϑ @3ʻ ?2HH)3?ʻ@(ʻ +3ʻ ?2 39ϑ=+'/+ʻ +3ʻ **2)9ϑ +4)?ʻ 76ʻ 4ʻ 47ʻ ;'3=ʻ=3ʻ 52(ʻ 9 '))ʻ 52E3ʻ2*ʻ2 356ʻ 4ʻ 3AɠC 6)2'*ʻ +'9ʻ ʻ=')ʻ 97<<39ʻ'ʻ2ʻ)329ʻ 29ϑ 2ʻ +(64 +39'9ʻ +2ʻ +3ʻ :4 53ʻ'*/ 3293ʻ=2ϑ 4='*<ʻ 4ʻ +3ʻ 3A 3*9'4*ʻ 4:ʻ +3ʻ '9464)' 3ʻ: 2*/+'93ɠ +3ʻ ?3/ 3293ʻ 4:ʻ X k ʻ 4*ʻ +3ʻ 4 +3ʻ +2*?ʻ 52(ʻ +2;3ʻ 2 '93*ʻ 52'*)(ʻ: 45ʻ +3ʻ 9362 2 '4*ʻ 4:ʻ '@39ϑ 3*,4('*<ʻ '9464)' (ʻ @7ʻ 2)94ʻ *4ʻ ?47@ʻ: 45ʻ +3ʻ)499ϑ 4:ʻ +3ʻ 3<'4*ϑ = 39 3?ʻ: 45ʻ 453ʻ ʻ'ϑ 73ʻ 2))ʻ +3ʻ)2*?+4)?3 ϑ '*ʻ +493ʻ 3<'4*ϑ 2997 3?)(ʻ?'?ʻ *4ʻJ)32;3ʻ 4ʻ +3ʻ 9R')$ʻ 2*?ʻ 3;3*ʻ':ʻ +3(ʻ +2?ʻ +3'ʻ *75@3ʻ=47)?

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' +3 :37?9 '* +3 9 2 39 4: 2* 'R7' (?'? *4 / 336
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4 ’ ?439’ +3’)2 3 ’ <4’)399’ ’* 4’ ?3 2’)’ ’*’ ?39/ ’@’*<’ +3’ 3;3* 9’ 4:’ +3’ 2 ’*’ =2 $’ 4:’ =+’/+’ *4 +’*<’ @7 ’ +3’ @2)3’ 4:’ 3<’))79’ ’9’ *2 2 3?’ @(’ ’;($ 3A/36 ’ 7*?3 ’ ’ =+3 3’ +3’ 92(9 ’ 29’ @ ’3:)(’ 29’ 6499’@)3 ’ +2 ’ %’?3* I ’ =29’ @39’3<3?’ 79 753 ’2’ 2E3* ’ 23*39 3’ /253’ 4;3 ’ 4

Ñ ,1’ ’, .11’, 28 : .1 :’ ,0-’"71-’ +, 0’ ".1’ 52’’ ’0’ :1"’,’ 8’ ’ N/ ".1’ ’, 1’-"41’ +, 0’ 8’ ’ ".1’ 7 @18’ 25/’ 8’ ’, 1’ *1".’ NF

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+3 452*9$ 9 4 +3 /3)3@ 2 3? @2)3 ' 93): +3 3))9 79 /2*?'?)(+2 =+')3 9453 = ' 3 9 =+45 +3 :4))4=3? 6)2/3? ' '*' +3 (32 4 +3 9 67 ' ' 4:: ')) +3 /4*97)9+'6 4:; 49 75'79 Y +3 ?2 3 <';3*' @(' #'4*(9'79 : 45 =+'/+ ;2 '2 '4*' ' '9 /)32 +2 +3 4)?39 '756+2) %29 " ?'?? *4 53* '4*' ' ' +47 ?47@ 44 ' =29 4*)(+3)2 3 2**2)'9 9 =+4 964E3 4: 49 75'79 29 +3 /45 52*?3 $ +2;'*< :4 <4 3*' +2 +3 : '/2*79 =+493 3 *4=*' =29 97*< @(' +3 2)2@ '2*' @2 ?' =29 +3 :' 9 452*' =+4 <2'*3?' 2 97 *253 : 45 +'9 /4*R739 9# !';' =+')3 +3(' ?'?? *4 4@93 ;3 +4=' : 3R73*)(' 97 *2539 : 45 2 6)2/3 4: 39'?3*/3 4//7 '*' +3 %29 " 4: +3 3F)'39 '539 9 +3)27?'" 44E +2 4: 3<'))3*9'9 94 ?'? +3 49 75'' +'9 @2)3 29 + 79 '* 4 +'9 4 (9 2*?9 =' +47 +3 9)'<+ 39 397) 4 /4**3A'4*' +3 ;'/ 4 ('9 /456)3 3 (3 2: 3 93;3 2) (32 9 4:'*2/ '4*' 2 :3?3 2) 32 (' 93 9 ' 9 932) 4 +3 63 :3/ '*?363*?3*/3 2*? 3R72)' (' 4: +3 2 '*9$ +3 ;3 (' 64'* 4 ?3/'?3 =+'/+ +3 @2)3 =29 :47<+

4 +2 +3 3 2<2'*' =3 +2;3 53 3)(' 2 +3 4'/)2($ 2*4 +3 : 2<53* 4:' =+'/+ +29 @33*' 6 393 ;3? @(' #'4 *(9'79 3:4 3 +3 53)2*/+4)(' /4* 39 @3 =33*' +3 =4 E'*? 3? *2 '4*9 @ 4E3 47 +3(' 3*<2<3? 4 E336 632/3 :4 2 (32 +2 +3 *75@3)399 '39 254*<9 +3' /' 'H3*9 5'<+ @3 25'/2@)(' ?'994);3? 32;3 =29 2)94 < 2* 3? 4 97/+ =453*' 4:' 32/+ *2 '4*' 29 +2? 5253?' '*' +3 4 +3 $ 3 7 *' 4 +3' : '3*?9 2E'*< +3' ?27<+ 3 9 2)4*< =' + +35))' +3 452*' =453*'J')3: +3' 2 '*' +79@2*?9 2 +3 2 '*' =453*' 3A/36 =4 9 2'?? 2 453 +3 6 47?;' 73 4:' +3 52 4*9 =29 9 ')' @)445 '*<' '*' :7))' 67 ' (' =+3*' +393)2(9 =3 3 /456493?

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B H. 42-' (1.'1' , 1' 451."'0.' 804 81' @ ('"1' ")' -1' 718' -' 1-" 80, ! '"'2-? 1;145!0 :1 8:1' ,2I2-/ 1'(' @*/ ; ; ;

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08*- 2- -'"87.*' + ', "(1.'"8:'C1!! 2-/60.'80" ("!(2!"' 87 ', "' ".92 8 2-/ 1@18 -2550- 87 , 4' ', 1' 7."8:-08 06 . -(2-/ 42-" !"@1')118 8 81'*' *1".- 0!:' - "52.50-1!*' ', "' ,1'-255.1--1-' ', 1 .')0',' ("!! 87 , 4' ', 1'-08 06 H. -(2-'f -0/' ', "' "((0.: 87 '0' ', 1' '")!1-' , -' "71' 42-" ,"@1')118 ' 1' , 4-1!6 -2)-' '2'1-' '2-' ".92 G 8 2-'60.' , -'6"', 1./'0' -"@1' ', 1')"''!1'60.' , -'0.*

Y' , -' -'418' 081:')*' 08*- 2-'"!081? ', "' " -':."+8'6.04'"8' "8(18" -02.(1/ -' ', 1' 40.1' (1.'" 8/ - 8(1' ', 1*' (041'60.+".:' "-' "('0.-' 8' "' !"'1.'5". ' 06 , -' , -'0.* ' 11'C!".("82-' "8:' *!)2.7'08 08*G - 2-/ '

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+3 4@,3/ 2'53? 2 '* '*9 ' 7 '*< +3 ?'/ 2 4 9)*6 Y 29 =')) /2)) ' : 45 +3 :' 9 @(+3 *253 =+'/+ '* /47 93 4: '53 9766)2* 3? +3 32)'3 4*3 579 '*/4*C 39 2@)(+2;3 @33* 4 3;2?3 +3 "2)3 '2*)2=9 2*? 4 339 2@)'9+ 2* 7*)'5' 3? 27 +4 ' (4;3 +3 6)3@3'2*9 3;3* =' +'* +3 +2 '3 9 2*? +3 5')3 4: +3')'@3 '39 %4 +3)3<2) 26632) 4 +3 /4554*2) (=29 : 45 +3 93*C 3*/3 4: +3 /4*97)9 *4 : 45 +2 4: +'9 *3= 52<'C 9 2 3 4 ?439 97/+ 2* 26632) 9335 3;3 4 +2;3 @33* '* 4?7/3? *4 3;3* 2: 3 +3 64=3 4: +3 '@7*39 +2?

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6' ,1' !"'1.' 08' ,1' (08'.".*' ".1' +1' '0' 28:1.-'"8:' ',1' -'"'1 ' &' 418" 8' ,1' -"41' 5"--"71' 06' k08"."-/ ' ,"' ',1' : ('"'0.' S! D1' ',1' (08G -2!-# (02!:' 80" :."+' 2508' ',1' .1"-2.*')1*08:' ',1' (.1: " 08' " 7."8'1:' '0', 4')*' ',1' -18"'1

' B '? # ' % ' .0 ' < ' ' & ' [D =:LLJ ' 0' : .0:1;U1!" [' 045".1' ',1' +,0!1' "((028" 06' ',1' "550 8'G 418" 06' ' ".(2-'I2-") 160.1' ', -

&&' ,1' -18"'1' :1(.11:' ',"' ',1' (08-2!' -,02!:' 892 .1' ',1' + !!' 06' ',1' 5105!1/ "-' '0' ',1' 51.-08' '0')1' "550 8'1:/ "8:' -,02!:' 5.0(!" 4' , 4' +,04' ',1*' (,0-13' ',1' (08-2!' 0 L -' ' , , ' 0 -, , 'J, ' , ' - - - ' -'?' @*/ ; ;@ /'[

)27?'79 7)/+3 /47)?* *4 +2;3 '*97) 3?* +3* 367@)'/* @(* *45'*2 '*<*)(/'2. 7 *3;3 /2** +3* ?'96492)* 4:* E'*<)(* 64=3 +2;3* @33**' 3* 79 3?* 4* +3* ?'9/ 3 '4** 4:* 2* 9'*<)3* 3)3/ 4

+3* 64* ':'/2)*)2=@44E9 /)4 +'*<* +3* 6 '*/'6)39* 4:* +3* /4*9 ' 7 '4** 2: 3 +3' 52**3 '*' 2* +'9 4 '/2)* :4 5 6 393 ;3?* +3* 73* 2//47* % 4 =+2 4 +3 947 /3* /2** +2;3* 9766)'3?* #'4*(9'79* =' +* +3* 394)7 '4** 4:* +3* 93*2 3 29* ' 6 4:39939* 4* @3 +2 2* /' 'H3** =+45 +3* 93*2 3* 9+47)?* *45'*2 3 2*?* +3* 6346)3* 266 4;3* 4:* 9+47)?* <4;3 *' :4 9'A* 54* +9* L* +3* 6346)3* +3 3* '9* +3*5 6467)79 =29* 2* ! 3;';2)* 4:* +3* 2*/'3** /79 45* :4 +3* ?*<* 4* +3* 3)3/ 3?* @(* +3* 62 '/'2*9G* 2*?* +2 97/+* =29* +3* :4 5* '9* 39 2@)'9+ *@(* 649' ';3* 39 '54*(

'))* 4: 3*3 '*?33?* + 47<+47 +3* =+4)3* :' 9 ?3/2 4:* ';(?4* =3* 32?* 4:* 2* ?3/ 33* 4:* +3* 93*2 3* =+3 3@(* 2* ?'/ 2 4 =29* 2664'* 3?* =' +47 2*(* *4 '/3* 4:* +3* < 32 /47*/')* 4:* +3* 62 '/'2*9 I . +3* 4)?* 54?3* 4:* 3)3/ '*<B

A* @*/ 5 ' ' L L ' 21'08 2-/)1./ ('

'b @ @ 3 .1* X 02LU >}.50hLII."/ $"!f N (.'X8I\US8I." OG 8*- 2-/ 'B

"!1. 2- =92 5. 42-* 4 "U-'1.* , (.1"'2-* 1-'* 1- '2-/ "* 5' 4"* !1;* ((15'0* -18"'2-* :1(.1'0* 2"* (04 ' -* (2. "' -* .1* @0(\"'2-* :1* 1; ! 0* , , "4 !!2-* : ('"'0.* 1;'18 5!0* (.1".1'2.?* @*/ "* N* 5* !"2: ' 4* : ('"'0.14* , -* 1. @ ! 2-* (08-2!* : ; "? @ N* 160.1* ', 1* -1(1-- 08* 06* ', 1* 5!1)-/ 55 2-* +"-* 08* ', 1* 50 8"* 06*)1 87* (.1"'1:* : ('"'0.H*)2"* ', 1* (08-2!-* "8:* ', 1* - , (08'. @1:* '0* 5.1@18"* "S * #? -0* ', "* ', 1* "88"! -"* ,":* 8* , -* 1*1* "8* 1!1(' 08*)*' ', 1* '! 8"* -/ 8 ', -* 5! 31/ ', 1* (2. 1-* ,1* @ "'0./ +,0* ("..1-* ', 1* : ('"'0.-, 5'0* 8(88"'2-/ -"*-* '0* , 4'? @1!"* (0.52-* 2"* 5.061."4* -K , J, N 4"8:"'"? H! 8*/ ;@4

B* 18"'2-* : ('"'0.18"* : ("4 14 ! 24* I2-- ' =U '? 18"'2-* "4* 14 ! 24* : ('"'0.14* '(.24* : (I2-- "= N? ('"G '0.*1;* * : ('2-* M* 1.@ ! 2-* H. -(2-* @ B? ('"'0.*1;* "2('0* . '"'1* -18"'2-* : ('2-* H* 0.81! 2-* 26 82-* ; F? 2('0.1* -18"'2* : ('"'0.14* * 28 2."* 2)2!(24* : ;I'* ; * '? * "!1. 24* (08-2!14* 0."81-* (18'2. "(;1.1/ 921.8* -18"'2-* : ('"'0.14* : (I2--2.2-* 1."' ,1* +,0!1* -'0.*/ ,0+* M* ")!2-* (08-'." 81:* , 4-1!6* '0* :1(!".1* , -

N

+3 E'*<9 =29 39 4 3? '*2)' 9 62 9' +3 ?'/ 2 4 2: 3 +'9 2664'* 53* +2? 4 4@ 2'*' +3 : 45' +3 /7 '39..II' *?' +79' : 45' 6499399'*< +'9 '<+ 4:' /4*:3 '*< +3 +3 62 '/'2*9 5'<+ ?'963*93 ='+' ;4 '*< 4*' +3 6 3)'5'*2 (' *45'*2 '4*' 4:' +3 93*2 3' 664'* '*< 2' ?'/ 2 4 =29 2*' 2::2' 4:' 7 <3*/(G 9453 27<7 (' 4 4 +3 5'<+ '* 3 76 +3 /7 '39G ' =29 97::'C /'3*)(' 7*:4 7*2 3 +2 +3 3 =3 3 @7 44 52*(' /+2*/39 4:' +'9 2 +3 '53 =+3*' +3 =29 4 @3 6 4/)2'53?' @(' +3 /4*97)' 2*?' =+3*' +3)2=' 4*' +'9 =29 4 @3 629 *?' 2: 3 +3 6)3@3'2*9 4@ 2'*3?' 2 9+2 3 '*' +3 /4*97)2 3' 29 +3 93*2 3 =29 /4* 572))(' 266 4A'52 C '*< 4 2 :2' 5'A 7 3 4:' +3 =4 39 2 39' ' =29 2 <2'*' :4 +3 : 33?45' 4:' +3 *2 '4*' 6 4;'?3?' +3 3)3/ '4*' /47)?' *4 @3 2*9:3 3?' 4 +3 /3* 7 '39' 4 9 3*< +3*' +3 93C *2 30 64=3 4:' *45'*2 '*<' *?3 +3 4)?' 9(9 35' 2 6)3@3'2*' /47)?' *4 6499'@)(' @3 ?'/ 2 4 4=' 29 2 B /'79 '*' \ 463*3?' +'9 4::'/3 4 +'9 4=*' 4 ?3 =+3 329 '*' \ ' ' '9 3A6 399)(' 9 2 3?' +2 +3 2664'* 53*' =29 266 4;3?' @(' +3 62 '/'2*9' ' '9 2)549' /3 2'*' +2 +3 /+2*<3 44E 6)2/3 '*' +'9 '* 3 ;2E ;3*' 5' XXX +3 B@3C 9 4=2) 4:' +3 ' =29 2997 3?)(' 54 3 +2*' 2*' 356 (' :4 5' 7 ' ' @3/253 97/+' @(' +3 23*'2*')2=' +3*/3C :4 =2 ?' ' ' =29 4*)(' 3R7'9' 3 +2 +3 /4*97) 9+47)?

C$ +'7?7CI' % + $ '5 (' #/ CF 7'' =+' : ' +F &'' 2+'' + 7+%I' ?$C ?+ 7%' H&' $& % ?$ '7? 7 '&F$?' = '' $ 7' &? 7' '' =7 $?'&' F $M + C7% = C' 7?' $?I' &'' ?' $?7 ?' +? 7 7 $K? S7'' =7 ?$C M ?+ $?' $ ' F F'+' HI' =7 '7?+ 7 N' , % ' D*' -y- ' =7 $ $2 ?K F+' '+K7'' + '$ +FF I' $ =7 7 7 $?' HI' =7 '7?+ 7' ' +? &C' >+ 7 &C' U+?' 5 $?'& 7'' '7? $ 7'N&7 F+ &CR' ' ' ? + $ 7C' % ' ' 7 &C' F + 7 ' ' ' +j+ ' % + $ 7C' % ' ' & &C' +C &C' ' * ' + $ 7C' % ' ' & F &C' F +M j+ ' =7 $ $2 ?K =+ 7 + 2 %7' '7?'7' ' N' : ' O& ? &'' ? ' ??+ &'' $?'7?'&$C? &C' % & ' ' ?' + $ 7C' O& ? &C' E ? ??+ &C' 7+ 7 7' > ' '' &'7% ?' 7 7 7? 7 $ =7 $C +' 'U7 $ ' ?' +? 7 ' **

: I' L' /&?%7' =7 I7+' 'B 5: ' +F $ & '$ R 7K7C' & + +C' %7 CF7 $ 7 7? ' ' 7 $C7?' % 7C' % %

/4*93* 4 6 4/)2'5 +3 63 94* *253?@(' +3 93*2 3 +79 2: 3 +2 '53' '* +3 2?;2*/3?9 2 3 4:6467)2 : 33?45 +3 ?'/ 2 4 9+'6 /47)?4//7 @7 93)?45 3A/36 :4 ';'2) 67 64939G 2*?':4* 97/+4//29'4*9 +3 2664'* C 53* =29)3: 4 +3 /4*97)9 +3(' =47Q * 2 7 2))(')2(' /)2'5 4 ')'E3='93!'* +493 94)' 2 (' '*9 2*/39 =+3 3 +3 4:) /3 9 '))+27 32)'564 2*/3

4=3;3 =+3*)27?'79 '*97) '*<)(' 5'9793?+'9 6 ';')3<3 +3 3535@ 2*/3 4:+3 2*/'3* 6 4/3?7 3 =29 9 '))9 : 39+3*47<+:4 +3 93*2 3 4 +2;3 +3 64=3 4:2**7))'*< +3 9/2*?2)479 2664'* 53* 4 ?4 94 +3(' =47)?*4 '3;3** *33?+3)3<2)'5'2'4** 53* '4*3?@(' ';(' +2 *4*3 @7 /4*97)2 9 =3 3 3+!<'@)3)2=4:+493 32)(' '539 /2** 4*)(' +2;3 964E3* 4:6 3 4 9 2*?6 3 4 '2*9G :4 =+'/+ 3294* +3 6 3 4 /4* '*7'*< 4 @3 ?335 3?!2 /4))g<73 4:+3 /4*97)9 ' =29 *4 ;'4)2 3?=+3* 26' '79 2997 9 =29 52?3 ?'/ 2 4 '* X 'G 2*?+3 4 +3 /2939 =+'/+ =47)?@3 2<2'*9 +3 7)3 ':'*C 3 6 3 3?9 '/)(' 4:97/+ 53* 29 +2? 2/ 72))(' @33* /4*C 97)9 5'<+ 6 4@2@)(' @3 3A6)2'*3?'* +3 9253 =2(' ':=3 +2? 6 3 4 '2* %29 '

* 2 *75@3 4:62992<39 '' '9 ?'9 '*/)(' 9 2 3? +2 +3 5293 4:+3 E*'<+ 9 =29 /+493* @(' +3 ?'/ 2 4 2 6)3297 3 7 +'9 2<2'* 579 +2;3 @33* +g 54 3

_ =7'7 +?' $?'+ 7 7(=H 7% ?=7 + $&?'K 7?HI' $M ?I'&'=$2 +=7 7 I' '7'+H '=C7?'$ =7 % + $ '=F =7 F7$F 7 $CC 7% =7 =$ 7 $ =7 '7?+ 7 =7 '7?+ 7 $ =7 $?'&' ' $ =7 , =7 L?$2'?$ = ?K$ = ' =' H$$L' +?% 27 7? 7% 2$& % H7 +H'& % H&'=7 C7 2 = ? =' H$$L' +?% 27 + 7 + 7+%I'+ N&+ ? 7% 2 = C+?I' 'ICH$ +' 7F 7'7? + $?' $ =7 '+? 7 L ?%

% $C7 7(7 =7 + 7? $?$ ' $ 7 '=7?7 7 ?=7 1 - N&$ 7' $?' & $?'2= = ? = '%+I' 2+' 4&' ? ' F C7'=7 C&''=+ 7H77?&?+ N&+ ? 7% 2 = & '=7 7C+ L'5 $ ' * .R' eF'& s D_ '%, ' , -' %#" ' s 'F $H+M H I' 7 7 '' $ =7 $C+?'' +' 27 '+' =7 +C? 7' +?% :& +? +?'' 7 7 7 '' $ =7 +?+ K&' 7(+CF 7 $ =7 2 - '4' +?% $?I'&' %$7' 7(+ I' =7 '+C7 2=7? 'F7+L ?K$ =7 % + $ '=F

k

3/3* 6 2/ '/3 2)3;3* 9 +'9 2664'* 53* '9 2 '0 @7 3? '* 4*3 '*9 2*/3 4 +3 93*2 3 *4)399 /)32)(+2* +2 4: +3 ?'/ 2 4 $ 29 2 +3 4 '<'* 4: +3 4::'/3 ' '9 2)329 '* <3*3 2) 3 59 4 2*? +3 ?3/ 33 4: +3 6)3@9 =+'?2 '* X 2'93? w %7);'79 %)2//79 4 +3 ?'/ 2 4 9+'6 3*,4'*3? +'5 4 2664'* '/'*'79 29979 $. +3 /';') /+2 2/ 3 4: +'9 4::'/3 '9 3*;3)46 '* 4 2) 4@9/7 ' (7 +2 +3 =29 *4 53 3)(+3 5 29 3 4: +3 +4 93 2*? +3 ?'/ 2 4 09)'37 3*2* '* +3 :'3)?' '9 /3 2'* /4*,3/ 7 3 +2 +3 =29 3)3/ 3? @(+3 /3* 7 '39 4: 6)3@3'2* E*'<+ 9 Y'29 +3 =29 @(+3 +3 9'A 97:: 2<'2 Y 2*? +2 +3 =29 +3' 6 4 3/ 4 +3 ?'/ 2 4 52(+2;3 6 3C 9'?3? 2 +3 3)3/ '4*$ 94 +2 +3 =3);3 /3* 7 '39 ;4 3? 4* +3 63 94* =+45 +3 6 46493? +'9 5'<+ 2: 3 C =2 ?:2) '* 4 ?'97 93$ 2*? +3 =47)? +3* *253 +'9 @ 4 +3 52<'9 2 3 +'593):

@*/ B? ('"'0. "')(08-2!)2- 1;" "2('0. '"'1 -18"'2- : ('2- H 0.81! 2- 26 82-/ 4"7 -'1. 192 '24 8'08 2- 3 06 ".(2- "8: 5 "-- 2- =(.1"'1- 8@18 0 G

W @*/ LL

V 18(1'" 5!1)1 "8 +02!:)1 1! 7)!1 '0' , - 066 (1 1@18)160.1 ', 1 (8 "8 !"+ 11 5 , 1.1 -114 -' '0')1 '" .161.18(1 '0' ', 1 5!1)1 "8 D8 7, '-/ +, 1.1 1.@ ! 2- , "!" - -18)*' , 1: ('"'0. '0' 5 "1! 2-? @*/ @

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' &' % ' ' '

#' ' f 2 F !)

' 2664'* 53* ' 4:' +3' ?'/ 2 4 ' @(' +3' /5 '39' =29'
2' 9 36' @2/E=2 ?' : 45' @3' /4*9 ' 7 '4*' 4:' 3 ;'79 ' 3;'*C
/'*<' 2' 93)3?' 6)2*' 4' 4@' +3' 6)3@3'2*9' 4:' ' 9' 2?;2* 2<39'
2*?' +4*47 9 ' =+')3' ' 3' @7 +3*9' =3 3' 9 '))' 4' 352'*' =' +'
+35 6 2*?' ' ' =29' +3' 6 3)7?3' 4' 2' :2 ' =4 93' 797 6C
2 '4* ' @(' =+'/+' +3' 6)3@9' =29' ?36 ';3?' 4:' ' 9' ,'<+ ' 4:'
3)3/ '*<' +3' /4*97)9' '*' +3' /3* 7 '39 ' 29' ' ' +2?' 2) 32?('
@33*' 4:' ' 9' 9+2 3' '*' +3' /4*97)9+'6 ' 499399'*<' +3'
?'/ 2 4 '2)' 64=3 ' =+'/+' +3(' 5'<+ ' 3' +3 ' 3A3 /'93' 4 '
+4)?' 47 ' '*' 3 47 ' +3' 62 '/'2*9' =3 3' 9 4*<' 3*47<+'
4' 3*<2<3' '*' 2' 6)2*' :4 ' 9 '66'*<' +3' ' : 33' /47* (53*'
4:' 2)' +3' ' '<+ 9 ' 2*?' 3?7/'6<' +35' '*?';'?72))(' 4'
9)2;3 (' 2?' ' B@33*' 3A3/7 3?' =' +' /27 '4* ' +3' 2 4C
/'479' ?39'<*' 5'<+ ' +2;3' 97//33?3?' 9' :2')7 3 ' 29' '9'
4: 3*' +3' /293 ' =29' 4='*<' 4' +3' ' 52?' '562 '3*/3' 2*?'
6 3/'6' 2*/3 ' 2*?' 4' +2 ' /76'?' (' =+'/+' =')' *4 ' =2' '
7* ')' 797 62 '4*' '*' ' 9' 9 7<<)3' 2<2'*9 ' +3' 96' ' ' 4:' : 33C
?45' +29' /)32 3?' +3' /47 93' :4 ' '

: 3 ' +3' @2*'9+53* ' 4:' +3' 2 R7'*9 ' +3' <4;3 *C
53* ' @3+2;3?' E'*?)(' 4' +3' /45 54*2) (' ' '9' 3)2 3?'
+2 ' 2))' ?7 '39' =3 3' ?3*3' 2=2($ 2*?' +2 ' +3' /' (' 44E'
+3' 92) B 2?3' '* 4' ' 9' 4=*' +2*?9 ' 4' 9 46' +3' 3A 4 '4*'
4:' +3' 3 2')B?32)3 9' 9' 4' +3' 9 2 353* !' +2 ' +3'
6)3@9' =29' 3A356 3?' : 45' '@7 3 ' ' ' 579 ' 3' +3 ' 532*

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+2 +3 =+4)3 /+2 <3 4: 62('*< +3 4469 =29 + 4=* 764* +3 3 2 '2*9. 4 +2 +3 2 @' 2 (' 2A2 '4* '* 4C ?7/3?' 7*?3 +3)29 2 R7'*'79 =29 2@4)'9+ +3 "2C)3 '2*)2=9 39 4 3?' +3 <44?')2=9 4: E'*< 3 ;'79 =' + 3<2 ?' 4)':3 J463 94*2)' 93/7 ' (2*?' +4*47 *')'E3 52**3 +3 :' 9 /4*97)9 2 3 92'?' 4 +2;3 3*3=3?' +3)2=9 =+'/+ 6 4+'@' 3?' 6)3?<'*< +3 63 94*. . I . +2 J +3 <7')?9 2*?' +3' 54 39 =3 3 339 2@)'9+ :4))4=9 4:/47 93

7 ' ' =29 4*)(' =+')3 2 R7'*'79 3A/' 3?' 2)2 5 2*?' '))' +3 +2 ?' =2 =' + 7 '2 =29 3*?3?' +2 +3 <4C ;3 *53* 29 2))79 92(9 7)3?' =' + ,79 '/3 2*?' 54?3C 2 '4* +3*' +'9 =29 4;3 +3 62 '/'2*9 ?32)' =' + +3 6)3@3'2*9 29 =' + 9)2;39 (2**'/2))(' 52) 32 3?' +35 2*?' 3;3*' 964 3?' =' + +3')';39 7 *3?' +35 47 4: +3 67@)'/' ?452'*' 2*?' ='3)?3?' +3 <4;3 *53* 2)4*3 4 +3 3A/)79'4*' 4:B +3' :3))4=/' 'H3*9G @(' =+'/+ 47 2<39 2*?' 2@4;3 2))' @(' @3 6 3997 3 4: 797 (' +3 /45 54*2) (' @3'*< :4 /3?' 2 4*/3 4 62(' '@7 3 2*?' 4 93 ;3 '*' *3;3 /329'*< =2 9 =29 2)29 ? ';3*' '* 4 '*97 3/ '4*' +'9 36 3C 93* 2 '4*' +29 @33*' 2?46 3?' @(' @3 < 32 39 :2 +3 4: +3 =39 3 *' /+7 /+ 29 3;'?3*)(' 73 I. 4 +3 9253 3:'3/ ';(' 3)2 39 +2 94)4*< 29 2 R7'*'79 =29)';'*< '*B 3A')3 +3 :2;47 4: +3 6)3@9 =29 /47 3?$ +7 +2 2: 3 +'9 ?32 +' +3 *4@)39 @3<2*' 4 52) 32 ' I . 3632 +2 /+ 4*4)4<'/2)' 9 2 353* 9 =' + 3<2 ?' 4 +'9 63 '4?' 2 3 4 2))(' '?)3G 4*)(' ' '9 44 < 499 2 ;'4)2 '4*' 4: 2))' 6 4@2@')' (' :4 ';(' 4 6)2/3 +3 E'*<09 ?32 +' +3 /+2*<3 '*' +3 /4*?7/' 4: +3 62 '/'2*9 2*?' +3 @3<'**'*< 4:' 9 : 7' 9' +3 :' 9 ?'9 7 @2*/3 2))' '*' +3 9253 (32 453 2**2)'9 579 +2;3 53* '4*3?' +3 3;')' =+'/+' =' +47

>' 11' 5 B

AA A 08*- 2-/ @' '? $0 ' ' "# ' !+0 +15! .(@ D (n" --- ' ' u ?' 2LL'02 ' G3 ' 4 (' ' ' & :' ' ' ' ' ' ' 1 '

Y' 272-' 8/ :1' @ '"'1' 1 / '

$ ' ' '? H!1) / (2' ":' 1".8 : 14' -244'" 051' 8-1.@ '24' 1."'/ 8I2. "1'"' 5. 40.)2-'6 1. ' (0151.1

?47@ +2? @33* =2A'*< =4 93 2*? =4 93 ?7 '*< 93;3 2) (32 9 :4 +3 :' 9 '53 3 4963/ ';3)(2 +3 364/+ =+3* ' 32/+ ' 9 :7) < 4= +

+2 +3 4)'<2 /+(9+47)? +2;3 @33* 9 4*< 3*47<+ =+3* 2'?3? @(+3 3 37 9 4: +3 ?'/ 2 4 9+'6 463*)(4 3;';3 +3 2*/'3*)2=9 4:?3@ '9 *4 =2('*/ 3?'@)3 +3* =3 :'*? +g93)2=9 +4=3;3 *4 4*)(352'*'*< 7*C 2) 3 3? 2 +3 632/3 @3 =33* +3 =4 39 2 39 @7 :4 +2):2 /3* 7 (2: 3 +493 4: '/'*'79 < 32 ?47@ 9 2 3 /29 4* +3 9 4 (+2 +3(+2? @33* 2@4)'9+ ='/3 '* +3 ;3 (32)(2<39 3 +'9 29 r 52(+2 ?'::3 3*/3 @3 =33* +3 '<+ 9 4: +3 =4 4 ?3 9 =+'/+ 2: 3 =2 ? /2793? +3 *33? :4 +3)3<'9)2 '4* 4: +3 ?3/35;' 9 =29 +3 3 94 ?336)(44 3? +2 ')29 3? :4 :47 <3*3 2C '4*9 2: 3 +3)2=9 4: +3 =3);3 2@)39 3*/3 ';(=+3* +3 '9 2@47 4 3)2 3 +3 2@4)' '4* '4: @4*?2<3 :4 ?3@ 92(9 +'9 =29 +3 /45 53*/353* 4: 2 *3= : 33C ?45 :4 +3 6)3@9!I IJ +'9 352 E /)32)(@3)4*<9 4 2** 4)?2**2)'9 *4 4 ';(G ' 52(+3 3:4 3 @3 3C <2 ?3? 29 2 ?'9 '*/ 2993 '4* 4* =+2 4 +3 ='93 /47)? 4*)(@^ '*:3 3? +47<+ =' + 63 :3/ /3 2'* ($ *253)(+2 +3 6 3997 3 4: +'9 9(9 35 :3))4* +3 6)3@3'2* ?3@ 4 2)4*3 9 4 +3 62 '/'2* +3 /2* *3;3 +2;3 3' +3 6)3?<3? +'9 63 94* @(/4;3*2* 4 @33* 93* 3*/3? 4 93 ;' 7?3 @(+3)2=

4= ': +3 4*)(?'::3 3*/3 +2? @33* +2 +3 4 '<'*2) /' 'H3*9 3*,4(3? 2 @3 3 9 2 3 4:)2= =' +'* +3' 4=* @4?(+'9 =47)? +2;3 @ 3? *4 :37? @3 =33* +3 =4 39 2 39 +3 6)3@9 5'<+ +2;3 629 2 394)7 '4* 4 2?46 +3 9253 9(9 35 2*? =47)? +2;3 +2? *4 47@)3 '* 4@C 2'*'*< +3 92*/ '4* 4: +3 7)'*< /)299 :4 ' B': 3R7'C 9' 3 7 7*:4 7*2 3)(' =29 +3 '* 3 39 4: +3 62 'C /'2*9 4 9 2*? 76 :4 +3 / 73) 6 2/ '/3 4: 63 94*2) 6)3?<39 29 57/+ 29 :4 2*(6 ';')3<3 4: +3' 4 ?3 ';(+'593):

XB" ' 'G 4 2**4 6)3@ 752+23;3)7 2)'7? '*' '75)'@3 B 2 '9 :2/ 75 39 R74? *// '?/9'3 7* ' 33 6 X

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'*' 96' 3' 4:' +'9' 6 3,7?'/39' ?439' *4' 9766 399' =+2' =29' 4' +3' 32?' '*' +3' **2)9$' +2' 3;3 (' 62 '/'2*' +4793' =29' 2' <24)' :4' ?3@ 4 9$' 2*?' +2' '*' 93294*9' 4:' < 32:' ?'9C 399' 2: 3' 3;J (' 9' '*<' 4:' +3' /47 9' +3 ?9' 4:' 93* 3*/3?' 9)2;39' =3 3')3?' 2=2(' '*' /+2'*9' 4' +3' +47939' 4:' +3' *4C @)399' #'4*(9'79' 44' 36 393* 9' E'*<' 3 ('79' 29' 92(C '*<' +2' +3' / 73)' 797 (' 4:' +3' 62 '/'2*9' =+4' @(' ' 9' 532*9' =3 3' 3?7/'*<' +^' : 33' /' 'H3*9' 4' 93 ;' 7?3' 2*?' +3' ' 6 3 3*9'4*9' 4' +3' 3A/)79';3' 4//762 '4*' 4:' +3' 67@C)'/' ?452'*' =3 3' +3' 54 ';39' =+'/+' 7 <3?' +35' 4' 6)4' +'9' ?32 + I IG 2*?' '*' +3' ?3/'9';3' /293' =+3 3' +3' 2@45'C *2@)3' /4*93R73*/39' 4:' +'9' 9(9 35')3?' 4' ' 9' 2@4)' '4*' +3' 797 3 ' ' 26' '79' =29' 2' 62 '/'2*'$ +'9' ;'/ '5' 2' 6)3@3'2*' ' 7@)')'79.

2(' +3(' 26632' '*' +393' /2939' *4')'E3' 63 94*9' =+4' : 45' +3' ' 9763 '4' 64=3' /453' :4 =2 ?' '*' @3+2):' 4:' 4 +3 9' 29' =3))' 29' 4:' +3593);39' @7' 29' ':' +3(' 2)4*3' =3 3' /4*/3 *3?'$ 2*?' +'9' 44' 94')2 3' 29' '*' +3' (32' \k' =+3*' 2' 3294*2@)3')'5' 2 '4*' 4' +3' 2 3' 4:' '* 3 39' '9' 32<3)(' ?3 3 5'*3?' 764*' @(' +3' 6)3@9' @7' <';39' 4::3*93' 4' +3' 62 '/'2*9' 4' +2' =3' /2*' 9766493' +3' 6)3C @3'2*9' 4' +2;3' @33*' =' +47' +3' 64=3' 4:' 6 4/33?'*<' 2: 3' +3' 9253' '9(9 35' *)(' ':' +3(' ='9+' 4' 2@793' ' ' @(' 9 3 /+'*<' ' 4' +3' 7 549' +3(' 5'<+' @3' 39 2'*3?' 29' +3(' =3 3' 97@93R73*)(' @(' +3' '@7*39' 4:' +3' 6346)3

" ' m'G 3<2 '5' R74 '?'3' ?3' :4 4' 2??'/ 49' ?7/' 3' 36)3 '' ;'*/ '9' *4@')39' ?4539'G 3' 7@'/7*R73' 62 '/'79' +2@' 3' '@'' /2 /3 35' 6 ';2 75' 3993

Y' ' '? & % 'E ' e'"' G' " ' " 'X 6' D% & P eF' % ' ' - ' %%& " = $ & P 'L , ' - ' ' % ' z q -& ' ' ' , - ' '-8- ' D : - {pg '$ ' b ' ' ' e $q ' 8 32?' 3 *' ' -' " D @&: ${' - ' ' ´ " ' ' ´

>' ';(B;'*'

' 27?' 23R73')23 2' 62 '@79Y ?3' 7*/'2 '4' :43*4 3Y 4<2 '4' 39' 63)7 2$' 3' 6)3@9' 2)'R72* 4' 32 *' /76'?'79' 9/';'' 'G ';(' ;'' ' m' 2*)'79' 44' 8;'' X0' ;4/':3 2 79' ?3' 9763 @'2' 62 ''5' 2/' / 7?3)' 2 3' :43*3 2 4 75' 3' 5'93 ''9' 6)3@'9

' 3;3*' '*' +493' ?2(9' @(' +3' 52<'9 2 39' =+493' 4::'/3' <2;3' '93' 4' +2 ' 4:' +393' '@7*39'6 2*?' +3' : 33' 6490 93994 ' 4:' +3 3?' 2 (' 6 463 (' 5'<+ ' 9/ 33*' +'593):' 2<2'*9 ' +3' 63 93/7 '4*' 4:' 2' @ 4 +3 ' 6)3@3'2*' @(' @3/45'*<' +3' /)'3* ' 4:' 2' 62 '/'2* ' 4@2@)(' +4=3;3 ' J 3 ' 52'*' 62 ' 4:' +3')42*9' =3 3' 53 3)(' *3<4/'2 3?' '* +3' *253' 4:' 620 '/'2*9' 4*' 2//47* ' 4:' +3' ' /)'3* 9' =+4' =3 3' :4 /3?' 4' 26632 ' '*' +3' 63 94*' 4:' +3' ' 62 4*9' 2*?' =+4' 2)94' 326 ' +3' < 32 39 ' 2?;2* 2<3' : 45' ?4'*<' 94' :' 2' :4 3'*3 ' 6 2/B '9 ' 97/+' 797 (' +3' +2?' =' +47 ' ?47@ ' @39'?3' +3' 4 ?'0 *2 (' @7 +3*9' 4:' /)'3* 9+'6 ' 4' 62(JJ)'E3' +3' : 33?53*' 2' 62 '/7)2 ' 975' 4' +'9')4 ?

4=' +2 ' '*' +393' 32)(' '539' *4 ' +3' 9)'<+ 39 ' 2/3' 9+47)?' @3!':47*?' 4:' 797 (' /2 '3?' 4*' @(' +3' 6)3@3'2*9 ' '9' +3' 54 3' 352 E2@)3 ' @3/2793' '*' +3')2 3 ' 2<39' 4:' +3' 367@)'/' +3' 6)3@3'2*' E*'<+ 9' =3 3' +3' ;3 (' /)299' 254*<' =+45' ' ' 9 7/E' 44 $' 2) +47<+' 2 4' +2?' 6 4*47*/3?' ' ' 4' @3' *4' @3 3 ' +2*' +'<+=2(B 4@@3 (' *' +3' 4 +3 ' +2*?' 254*<' +3' 535@3 9' 4:' +3' :3=' 352'*'*<' 62 '/'2*' +47939 ' +2 ?)(' 2' 9'*<)3' 4*3' +29' @33*' /+2'!<3?' =' +' +'9' ?'9< 2/3:7)'Þ 2?3'$ 2' 5354 2@)3' '*9 2*/3 ' +2 ' ;' 739' 2*?' ;'/39' 2 3' *4 ' +3')445' '*' 62 '/7)2 ' :25')'39' 4 ' /)29939' 4:' 94/'3 ($' @7 ' +2 ' +3B64=3 ' 4:' ?4'*<' =+2 ' +3(')'9 ' ='))' 5'9)32?' 97/+' 29' 2 3' *4 ' 39 2'*3?' @(' 3963/ ':4 ' +3' 46'*'4*' 4:' +3' @3 3 ' ?'96493?' 254*<' +3' ' :3))4=/47* (B 53*' 2*?' 3R72)9'$ =+3 329' +3' *3/399' (' 4:' E336'*<' =2 /+' 4;3 ' 47 ' +4*47 ' 6 393 ;39' 79' : 45' ?36 2;' ($' +2 ' 2' ?4C 5'*2* ' :2/ '4*' '9' 3;3 ' 97 3' 4' 2*9< 399' 2*?' +3 3@(' 4' 93 ' ' 9' 2?;3 92 '39' '*' 2' :2;4 2@)3')'<+

' 2))' /47 '39' 53*' '*' *33?' +2;3' +2?' +3' = 3 /+3?' '<+ ' 4:' 93))'*<' +3' ' 63 94*9' 2*?' +3' ' :2*4')'39' ' 4@C 2'*3?' 254*<' +3' *4 +3 *' *2 '4*9' 29' =3))' 29' 254*<' +3' 33E9' 2*?' '*' 9'2 ' +3' '<+ ' 4:' +3' / 3?' 4 ' 4' 93'H3' +'9' '*94);3* ' ?3@ 4 ' 29' 2' 93 ;2* ' 2*?' @(' +'9')2@47 ' 4 ' @(' +3' 92)3' 4:' +'9' 63 94*' 4' 362(' +'593):' 94' :2 ' 29' +'9' =3* ' =29' 9/2 /3)(')399' ='?3)(' 96 32?' E'*' '*' +3' ' 4 '<'*' 2*?' '*' +3' ' 397) 9 ' +393' '<+ 9' 2 3' (3 ' 97@9 2* '2))(

?'::3 3* G 2*?' ':' =3 ? 2=' 2' 6 463 ' ?'9 '*/ '4*' @3 =33*' +35 ' +3 2*/'3* ' 452*')2=' 4:' ?3@ ' @3/4539 63 :3/)(' /)32 ' 2*?' 9'56)3

#3@ 9 52(' @3' '*/7 3?' 3' +3 ' @(2' ?' 3/ ')42*' 4 ' @(' @ 32/+' 4:' 2*' r@)'<2 '4*' 4' 9453' 62(53* ' 39'?39 ' 2/C /4 ?'*<' 4' +3 ' 452*')2=' /3 2'*' 4::3*939 / 32 3?' 97/+' 2*' 4@)'<2 '4* ' 29)2 /3*(' 2*?' +3')'E3 ' 4=' =+3 +^ ' +3' ?3@ ' 2 493' : 45' 97/+' 4::3*939 4 B4 +3 ='93 !=+43;3 ' 2: 3 ' +3' 6 3 4 ' +2?' <';3*' 93* 3*/3':2')3?' 4' ?'9/+2 <3' ' =' +'*' +3')3<2)' 3 5 ' =29 /4*9'<*3?' @(' +g')2=' 4' +3' / 3?' 4 ' 29 +'9 @4*?52*'GJ@7 ' +3' " ') ' 2*?' *4:$ ' ' 63 94*' @3/253' ' =+3*' @(' 2' 3<7)2 ' w7' ' 2 (' @2 C <2'*' @3:4 3' =' *39939 ' :4 ' 54*3(' =3'<+3?' 47 ' 4' +'5 ' +3' ?'96493?' 4:' +'593): ' 2*?' /4*93R73*)(4:' 2))' +2 ' @3)4*<3?' 4' +'5'$ =+3 3@(' 7*?3 ' +3' :4 5' 4:' 2' 92)3' +3' ''J' 32)' (' 6)3?<3?' +'593): ' * 4' +'9 9 2 3' *4*3' /47)?' /453' 3A/36 ' @(' +'9 4=*' 2/ ' 2*?' ?33?

%4 ' 29' =3')32 *' : 45' +3' =3))BE*4=*' 39 '54*(' 4:' r)'79 2))79 l ' 3;3 (' 2*92/ '4*' 2//4 ?'*<' 4' w7' ' 2 (')2=' 2*?' =' +' +393' :4 59 =29' 2' '& 2*?' ' ' '9' 2*' 7 3 ' 5'9 2E3 ' =+'/+' 4//7 9' 4*)(' 254*<' +3' 54?359 ' 4' ?3 ';3' +3' *253' 4:' +3' ' : 45' +3' ' :3 3 9' 2*?' 4' 9766493' +2 ' +3(' =3 3' 9)2;39 X*' :3 3 9' :4 ' ?3@ ' ' +3' :' 9 ' 3;3 (' 97/+' 2*92/ '4*' 29' '9' 44' 6)2'*' 4' *33?

4' =29' +3' 63 94*' =+4' +2?' 6)3?<3?' +'593): ' 2*?' ?'?' *4 ' 3C ?335' +'593): ' =' +'*' +3' ''A ' 3**6 +3' +3*' /329 ' 4' @3')' 3*/3' #'4*(9'79 ' '*' +3' /)299'/2)' 62992<3' 4+' +3' 97@,3/ ' 8;' ' D' 4*)(' ?'9/ '5'*2 39' @3 =33*' +3' ' '*/7 3?' @(' ?3@ ' 2*?' : 45' 4::3*939' 3*3*'79' 4::3 9' 4' /2*/3)' 2))' +3' ' 4:' +3' '*94);3*' DE ' OU('LO@."-' Abb' H,' @" $ $ ' <$D 6; ' Egh6D; ' _H<[H$B 6 4' 93 ' 2 ')'@3 (' 2))' 97/+' 29' =3 3' ' : 45' +2;'*<' :2')3?' '*' +3' ' 62(53* 9' 8-' $ $' ' E ' $ $' $ $ $' 2 9' $ ' X + ' < B' 2*?' '*')'E3' 52**3 ' 2))' +493' =+4' =3 3' 94' 4*' 2//47*' 4:' 2' ' $ ' 67*'9+2@)3' =' +' 2' :'*3' D 5 ' "LO@ 6-' !@ <6 *4 '9 2 3B/ '5'*2)9D

K' M20'1:')*' 1-'2-? 1;24' 1-'/' " '' C"!!2-' 1! 2-/' 920 : (24 ' 921' 51.' "1-' 1'' !)." 4' 71. '2./' :921' 81('!' : ('2./' 920' 8' 7181.1' -28'' ,"1(? '1-'" 418' '6"(' 0/81; ' :"' 0/81; ' !)1."' 0

6 44:' ='9 2*' 2/ 72)' 92)3' 7 ' +3' '*<3*7' (' 4:' +3')4B'
52 ",7 '9 9' /4* ';3?' @(' 532*9' 4:' +393' :4 59' 4' 39 2@)'9+'
2'9(9 35'4:' 6)3?<'*<' =+3 3@(' +3' 93))3 ' =29' 4' E336' 649C
9399'4*' 4:' =+2 ' +3' +2?' 94)?' 2*?' 4' 3?335' +'9' 6)3?<3' 4 * '
362('*<' +3' 54*3(' +3' +2?' 3/3';3?' 29' 2*' 32 *39 '6 =+')3'
4*' +3' 4 +3 ' +2*?' ':' +3' 54*3(' =29' *4 ' 362'?' +3' / 3C
?' 4 ')2'?' /)2'5' 4' +'9' 6 463 (' @3:4 3' +3' 6 3 4 ' +3'
9253':4 5' =29' <';3*' 4' 2' *75@3 ' 4:' 4 +3 ' 2*92/ '4*9' 2*?'
6 4/33?'*<9' 97/+' 29' 52 '2<3' @(' /4356 '4*' +3' :'/ ' '479'
92)3' 4:' /+')? 3*' :4 ' +3' ' 352*/'62 '4*' ='))9' 2*?' 94' 4*'
))' +393' 4<3 +3 ' =' +' +3' 2/ 72)' 2*9:3 ' 4:' 6 463 ('
2 3' /456 3+3*?3?' '*' +3' ?3:'*' '4*' <';3*' @(' "2 s' : 45'
2*')'79' 6 2*?' '*' +'9' ='?3 ' 93*93' ())2' 2))4=03?' 2))'
+3' $c ' 4:' +3' *3=' /' 'H3*9' =+45' +3' ?36 ';3?' 4:' +3' '
: 2*/+'93' 4' 9 2*?' 29' =3))' 29' +3' ' '<+ 9' 4:' '*+3 ' 2*/3'
7 ' +3' :'/ ' '479' 92)39' =3 3' 94' : 3R73* ' +3' 2*92/ '4*9'
/2 '3?' 4*' 7*?3 ' +3' :4 5' 4:' 97/+' 92)39' =3 3' 94' '564 C
2* ' +2 ' ' @3/253' *3/3992 (' 4' +2;3' 2' 63/7)'2 ' *253'
:4 ' +35 ' 3*/3' 792<3' 39 ''/ 3?' +3' <3*3 2)' 3 5' 4'
+393' 3A/)7?'*<' +3' ' +3' 2/ 72)' 2*9:3 9' 4:' 6 4C
63 ('6 2*?' 94' "2 s' 2: 3 ' /23;4)2' ?3:'*3?' 2' ' 4' @3'
+3' :4 5' =+3 3' 2' +'*<' '9' 6)3?<3?' @7 ' *4 ' 2)'3*2 3?
9' +3' 532*'*<' 4:' +'9' =4 ?' /+2*<3?' '*' 6 4/399' 4:'
'53' 94' "2 409' ?3:'*' '4*' 4:' 2' ' ?439' *4 ' 266)(' R7' 3'
/4 3/)(' 3A/36 ' 4' 2' 9'*<)3' /293 ' 4' ?47@ ' =+3*' 2' : 33C
52*' +2?' /4* 2/ 3?' @(' 93 ;')3')2@47 ' 4' =4 E' 4:' +3' ?3@'
:4 ' 0+'/+' +3' +2?' 6)3?<3?' +'9' 63 94*' '*' 2' w7' ' 2,(' 92)3

1' ' " ' ' 5' '? 1;24' "8 ! 2-'-(.)" 0481'920:'51.'
!)."4' 1'" "1-'71. '2./' 8'920' - 8" 4"8(5 " ' 0', 1' !0.18' 81'
' P (1.0/ 5.0' "1(8"/ S #? '"' '2! " :1' (@ '"'1/ 2" 808
-2-'2!1. " ,0.24'81;" "'921', "1.1: '"'1-
V' 8' ', 1'-"41'5!"(1'? 2(2-'S ("1@0!" -'"8' 8'1.50!"' 08# 92"1'
51.' "1-'1" !)."4'6 "8"2'0)! 718'2./5."1'1.'92"1'p '5."1'1.'92"4'
92"1'? ! '5."1'1.' 92"4# 4"8(50' :18'2./=' :' 1-" (' :14#
920:' 0)! 7"'0.' 51.' !)."4/ d1921' -224' 6" p '- '#' ,1'51.-08'
+,0-1' $ ' +"-' .1!1"-")*' 5"*418'/ +"-' ' ' ' '#
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k / +3 =29 2 $ 4*)(4*3 5 79 *4 39 '/ +3 532*. '*<4: +3 3 5 4 +'9 +43;3 +2?6)3?<3?+'9 63 C 94* '* +'9 =2(=29 4 $ 6 , 3;3* ': +3 /47)?*4 6499'@)(@3/453)'2@)3 4 ?'9/+2 <3 +'9 ?3@ @(93 ;'/3

7/+ 29 +2? *4 6 463 (5 79 2)=2(9 +2;3 /4*/)7?3? +3')42*9 7*?3 +'9 :4 5 6 +493 =+4 +2?=47)?@3 2@)3 3;3* '* +493 ?2(9 4 <';3 +3')2*?29 93/7 ' (*5 49 /2939 +4=3;3 2 63 94* + 32 3*3? =' + 2 93*C 3*/3 4: 2??'/ '4* =47)?6 4@2@)(3* 3 0 '* 4 2 +2 +3 5'<+ 39/263 :4 +3 '53 : 45 +2 5'9:4 7*3 :2*(4*3 =+493 / 3?'4)2'? /)2'5 4 +'5 @3:4 3 +3 6 3 4 ?'? *4 3?335J +'593): +'9)4 =29 /+2'*9 2*? /4 64 2) 67*'9+53* 2*? 2)) +3 +2 ?9+'69 4:9)2;3 (0 l

8 ',1 -"41 5!"(1?)1. 92 -2"- 051."- 8 -1.@ '2'14 -0 Q \ . o -1.@ '2'1# 5.0 51(28 " 92"4 :1)1)"'/ :")"" :24 -0!@1.1" Q :1)1)"" :24 - . o :1)1"" :24 - #/ 81;2-@0("'2.

,1 '+0 '1.4- ".1 + ',02 :02) 192 @"!18'? ',1 60.41. - 0550-1: . . 8 ',1 +1!@1 ")!1-/ ',1 !"''1. 8 @*/ ? h , . . , J , , J , L , . .# +,1.1 02l"'J 1;5!"8"' 08/ +, (, ,"- 28"((028'")!*)118 817!1('1:/ -80 !1--(1.'" 8 ',"8 0)@02- 11 ."D18)0.(,J 80'1 708 2- ,":" 7! 4 41. 87 06 ',1 '.2',?)2 , - (,"871=8(./ . . J, \ (0..25'- ',1'1;'

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8 -1.@ '2:1 60.: :1)'- 80 8(2..1:)*)0..0+ 87 -,"!!-51"D 8 ',1 -1(08: @0!241/ "6'1. ',1 !"+- 06 ',1 +1!@1 ")!1-/ 8 +, (, " - -0 4140."))!1 " 61"'2.13 "!',027, ',1-1 !"+- 42-")* 80 41"8-)1 (08- :1.1: "- '- 5. 4 ".* -02.(1 -,":"!-0 *1(2.'0 " +,18 (041 '0 ',1 H01'1! "8 !"+ 2 "- 05 8 08- :1! @1.1:)* +0.: 06 402',". 1 "5 '0 71 ")."0": 8 " 4 -'"D18 -,"51/ + !! ,1.1 !"* :0+8 ',1 60!!0+ 87 5.050- '08-)160.1,"8: ,1 H01'1! "8 !"+ 41.1!* : :"+"* ',1 $ 06 ',1 51.-08/ 8 .004 06 +, (, ',1 1 1 5.051.'*)1("41 28 @1.-"!?)2 " 4":1 80 (,"871 8 ',1 "::(' 08 60.: :1)'- 0.06618-1-3 "8: ',1 !"'1. (1.'" 8!*!"-'1: 1@18)1*08: ',1 18: 06 ',1 -1(08: H28 (+". , - ,0+1@1.+"- !D1+ -1 ")0! -,'3 "8: 8 '- '1":("41 ',1 .14 8:- 2- 06 ',1 a @1.* 1;5.1-- 08 .14 8:- 2- 06 ',1

4)4*< 29 2 =29 *4 +3 3*,4(3? +3 9253 '<+ 9 29 3;3 (4 +3 :7))' /' 'H3*'G +'9 =29 3AC 6 399)(' 93/7 3? 4 +'5' @(' +3)2=9 7 4* +3 4 +3 +2*? +3 =+4 =29 2?,7?<3? 29 2 9)2;3J)49 +'9 /';'/' '<+ 9J I)) '7 9 +3 7*?3 =3* +2 : 4: =+'/+ ' ' 'g 73 +2 47 /';'))2=@44E9 52E3 *4 53*C '4* @3/2793 =3 +2;3 *4 +'*< 4: 2*')'79 4 /c;4)2 2*? +493 =+4 = 4 3 7*?3 +3 3563 4 9)';3?)4*< 2: 3 ' +2? @33*' :4 <4 3*'$ 4: =+'/+ +4=3;3 =3 +2;3 '*?'9C 67 2@)3 3;'?3*/3 '*' +^ /' /7592*/3 +2 2*' 2/ '4*' =+'/+ 3*?2*<3 3? 2 63 94*09 /';'/ /+2 2/ 3 Y }E Y =29 2 +47<+ *4 =2(' 2::3/ '*< +'9)':3 *' +3 9253 52**3 2 /2793 =+3 3r+3 R739 '4*' =29 =+3 +3 +3 6499399'4*' 4: 2 63 94*09 <44?9 +2? @33*' 2?,7?<3? D B @(' +3 93* 3*/3 4: +3 6 3 4 =29 2 * : @3/2793 +'9 2??'/ '4*' +2? @33*' 97@9 ' 7 3? :4 +2 4: +3 63 94*

+3*' 2 ?3@ 4 =29 ?3)';3 3? 76 4 +'9 / 3?' 4 97/+ 4: +'9 /+')? 3*' 2*?< 2*?/+')? 3*' 29 =3 3 97@,3/ 4 +'9 27 +4 ' (' =3* '* 4 9)2;3 (' =' + +'5'G 29 =29 +3 R293

+. 1;0 -0!2'0921 :14 I2-' 1-'0

+ ,1 (08-2! 1.@! 2-' 5.04 -1-' ',1 5!1)1 "8-/ ', " :2. 87 ',1 ("45" 78 z ' ' ,- 1 & & % J), 8 bH0#5"'0@ -,"!! (08' 821 .1 L " 8LL02 ' $A * 08*- 2-/@ 8: 55 2-' -"*-' S@ F# ', " ,1 ,":' !0-" 4081*')*' -1@1."! 06 , -' :1)'0.-/)2 ,":' 81@1.' 4":1 "8* %- ,3 % ' ' '

=+3*' 9 2 3B/ '5'*2)9' =3 3' 94)?' 2)4*<' =' +' +3' ' :25')('SJ .'
+'9' 9 2 3' 4:' +3')2=' =29' E*4=*' 4' +493' 2**2)'9 9' =+4'
52?3' +3' 4)?' 94)?'3 ' 3))' +3' 6346)3 ' +2 ' +3' 797 3 ' +2?'
/2 '3?' +'5' 2*?' +'9' ' =4' 4*9' '* 4' 9)2;3 (' .$' 2*?' =+4'
36 393* 3?' +3' 3?'/ ' 4:' +3' /4*97)' 3 ;')'79' 29' 4 ?2'*C
'*<' +2 ' ':' 2' ?3@ 4 B9)2;3 I B' =3 3' ='))'*<' 4' 93 ;3' +'9'
/ 3?' 4 ' 9+47)?' *4 ' E336' +'9' /+')? 3*' 4 ' < 2*?/+')? 3*'
'6' /4*:'*353* I I ' +'9' =29' +3' 52'*' 3294*' :4 ' +3'
352*/'62 '4*' 4:' /+')? 3*$' 2' 53297 3' =+'?+' 2//4 ?'*<' 4'
+3' 452*')2=' 4*' ?4539 '/' '<+ 9' /47)?' 4 +3 ='93' 9/2 /3)('
+2;3' 4//7 3?

:' =3' 4*/3' <2'*' 2' /)32 ' '*9'<+ ' '* 4' +'9')2=' 4:' ?3@ T'
=3' +2;3' 94);3?' +3' 63',6)3A' (' =+'/+')3?' #'4*(9'79' 4'
2E3' 97/+' 9 2*<3' ;'3=9' 2*?' =+'/+' +3 3@(' +29' '* 4C
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+3' **2)9' 3)2 3?' +2 ' +3' 63 94*9' =+4' 93/3?3?' 4*'
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6346)3' +3' /';'/' 6)3@J! 44' B=+'/+Q#'4*(9'79' :47*?' 2' 453' '*' +3' 3'<+ +' /3* 7 (' =29B 7*?3*'2@)(' 2' ?3579' 4:' +'9' 94 $' :4 53?' @(' +3' @4?(' 4:' +493' =+4' 62 44E' 4:' +3')2 <39939' ?39 '*3?' :4 ' +3' /26' 2)QB\I$ 2*?' /4*9'9 '*< 52'*)(' 4:' : 33?53*' 2*?' 935'B/' 'H3*9' +3' 3963/ 2@)3' /47* (6346)3' 2*?' 57*'/'62)9IJ' =3 3' /456)3 3)(' 9362 2 3' : 45' ' G' 9 '))' +'<+3 ' 9 44?' +3' E*'<+ 9' 52*(' +4792*?9' '*' *75@3 G 2' 46' 4:' 2))' +3' *4@)399' =+'/+' +2?' /42)39/3?' =' +' +3' 352'*9' 4:' +3' 62 '/'2*9

+2' 2))' +393' *3;3 +3)399' =3 3' 6)3@3'2*9' '*' 2' /4*C 9 ' 7 '4*2)' 64'*' 4:' ;'3= Y +2' +3' =+4)3' 452*' *2 '4*' =29' 94' 3A/36' +3' :': (' 62 '/'2*' +47939' =+'/+' =3 3' 9 '))' 6 393 ;3?Ih' 2*?' +3' 62 '/'2*' :25')'39' *3=)(' '*/4 64 2 3?' @(' 7)'79' ::'92' 2*?' 7<79 79' Y' +'9' =29' /3 2'*)(' E*4=*' 4' #'4*(9'79' *' +'9')2 3' @44E9' 44' +3' /2**4' 6499'@)(' +2;3' 2*E' +3')32?'*< 6)3@3'2*9' 2: 3' +3' /4*97)2 3' =29' 6)2/3?' =' +'*' +3' ' 32/+' 254*< +3' /45 54*' 6346)3' 7' +4=' /47)?' +3' :4 <3' +'9' +2;'*< 3)2 3?' 2' /476)3' 4:' 62<39' @3:4 3' +3' ?39/ '6 '4*',79' 3:3 3?' 4' +2' "2)3 '79' +2?' 3* 4))3?' :47' +7*? 3?' 6)3@3'2*9' 254*< +3' E*'<+ 9' 4*' 2//47*' 4:' +3' ' =32) +' IIL' *3' 5'<+' '52<'*3' '*?33?' +2' +3' '?32' 4:' +2' 3R739 '2*' 5'??)3' /)299' =+'/+' 4//7C 6'3?' +3' '* 3 ;2)' @3 =33*' +3' 93*2 3' 2*?' +3' 6346)3' =29' :)42 '*< @3:4 3' +'9' 5'*?' 7' 97/+' 2*' '?32' '*' +'9' 6)2/3' 579' +2;3' ;2*'9+' 2<2'*' +3' 5453*' +3' '3?' 4' :'A' '

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JJ3*' 2*' 3 47' +29' @33*' :' 5)(' 44 3?' :4' /3* 7 '39' '' /2*' +2 ?)(' @3' 9763 :)7479' 4' @ '*<' :4 =2 ?' 2' ;2 '3 (' 4:' ?3:'*' 3' '*9 2*/39' '*' '))79 2 '4*' 4:' +3' 7 +' '3' 452*' 6)3@9' :4 53?' 29' '' =29' @(' +3' '*/4 64 2 '*<' 4:' =+4)3

@4?'39 4: /' 'H3*9 2*? /47* (6346)3 5'<+ @3 /4562 3? 4 +3 "27?393 ?363*?3* 4* +3 /' (4: 3 * 254*< =+45 +3 4)? 7 <7*?'2* *4@)399 9 44? 4* +3 9253 :44 '*< =' + +3 4=*953* 2*?Q +3 63292* (29 /4*C 29 3? =' + +3 94;3 2'* /2* 4* ' ':rM +3 32?3 @3 :25')'2 =' + +3 +'9 4 (4: %)4 3*/3)3 +'5 '52<'*3 +2 +3 367@)'/ +2? 7*' 3? +3 '*+2@' 2* 9 4: +3 =+4)3 '* 4 2 /4554*2) (* +'9 +3 /47* 9 7'?" 2*? +3 /29 3))2*9.J 4: 7<3))4 29 466493? 4 +3 7)C '*< 39 2 3 =47)? *4 @(+3 6 '*/'6)39 4: +3)2='9 2*? 2@4;3 +3 +47939 4: '9 4,2 4 2 4 *2(2@4;3 +3 /4554* /' 'H3* 4 (3452* : 45 h +3 "2) ?Q *4 +3 9253 '53 +3 :4**3 5'<+ *4 =' +9 2*?'*< @3 3R72) 63 +269 54 3 +2* 3R72) 4 +3 @3 " 2*? +3 4 +3 6 47?39 +47939 '* +3 7)'*< /' (3;3* 2//4 ?'*< 4 +3' 4=* *4 '4*9 4: *4@')' (9 '* 2)2 3 2<3)'3 25')'' =+4 2/3? +3' 63?'< 33 : 45)(9939 2*? ' /3 =3 3 2?5' 3? 254*< +3 6)3@3'2* /' 'H3*9$ 94 +3 3 /2* @3 *4 R739 '4* +2 +3 :25')'39 4: 6)3@3'2* E*'<+ 9 '* +3 32)'39 '539 =3 3 +3 *4@')' (4: +3 +2 +3 :' 9)32?3 9 4: +3 6)3@9 +3 '/'*'" 2*? /')'', =3 3 *4 =2('*:3 '4 3;3* '* @' + 4 +3 w7'*/ '" 2*? 49 75''

7 ' =29 *4 +3 96)3*?47 :)4='*< : 45 2 :3= :25'C)'39 4: +'9 94 +2 <2;3 97/+ 3963/ 2@')' (4 +3 452* 6)3@9 =29 +3' 3993* '2) /+2 2/ 3 29 2 @4?(4:)2*?C +4)?3 9 97/+ 29 ' '9 ?3*4 3? @(+3' w7' '2'(6 4B ,D3 ( )'3 2*/'3* 9 7*';3 92))(39 3353? 2< '/7) 7 3 4 @3 +3 6 463 @79'*399 :4 : 3353* 29 =3)) 29 +3 6 4C 63 9/+44) :4 94)?'3 9 +3 /47* (',,2* 92(9 2 4 +29 +3 :3=39 3;') +47<+ 9 * +'5 +3 4)? 9 4/E 4: +3 *2 '4* '9 6 393 ;3?C =+')3 ' /+2*<39 '* /' '39 =+3 3 :4 3'* 53 /+2* 9 2*? 2?3953* 93)3 2*? +3 *2 ';39 354;3 =+' +3 943;3 <2'*)7 39 +35 * 3;3 (/47*C (=+3 3 9)2;3 (6 3;2')9 : 33?53* 933E +3')';3)'+44?

@(' 4//762 '4*9 4: +'9 E'*? '* =+'/+ +3(' *4 7*: 3B R73*)(' < 4= =32) +(' +79 254*< +3 2*/'3* 9 29 '* 2: 3 '539 97/+ 2?39 =3 3 549)(' '* +3 +2*?9 4: +'9 /)299 2*? =3 3 +3 3:4 3 +47<+ ?'9 367 2@)3 4 2 /' 'C H3* 3*/3 J+3 46'*'4* +2 2?5' '*< +3 2 '92*9 4 :7)) /';'/ '<+ 9 =29 2 +2H2 ?479 53297 3 2*? =47)? 2*9:4 5 2 *2 '4*0 /+2 2/ 3 +3 2*/'3* 9 +2? *4 *4 '4* 4: 2 <4;3 *53* /2 '3? 4+ =' + ?'<*' (' @(' <7')?9 97/+ 29 =3 933 '* +3 +'9 4 (' 4: +3 4=*9 ?7 '*<)'3 5'??)3 2<39G 2*? 3;3* '* +35' ' '9 7*?3*'2@)3 +2 +3 5')' 2 (' 96' ' 92*E 29 +3 <7')?9 <2'*3? +3 7663 +2*? 4: +3 +47939 2*? +2 2)29 ' @3/253 =+4))(' 3A '*/ $ 2*? =' + ' :3)) +3 /+2 2/ 3 2*? +3 : 33?45 4: +3 4=*9 +'9 ?2(' +3 2)'2* 632926 9 ': 6 4C 6 '3 4 9 2 3 2 ;3 (' +4*39 2*? =4 +(' 2/3 2*?B '*:'C *' 3)(' 6 3:3 2@)3 4 +3 4=*96346)3 < '/7) 7 3 '9 +3' *2 '4*0 73 /2))'*< 29 2 932B)':3 '9 +2 4: +3 33E9 2*? 3;3* 4: +3 3264)' 2*9

! '3 452* 6)3@9 '* 32)(' 2<39 /4*9'9 3? 3A/)79';3)(' 4:)2*?+4)?3 9 2*? :'3)?B)2@47 3 9$ 2*? 3;3* ': 52*(' 4: ' 9 535@3 9 =3 3 3?7/3? 4 64;3 (' 2*? +79 9 '6 4: +3' 39 2 39 2)329 ' /4* 2'*3? *4 4*3 =+4 32 *3? +'9)';3)'+44? @(' 2*(' 4 +3 356)4(53* $ @(' /4553 /3 2*(' 54 3 +2* @(' +2*?'/ 2: 9B =29 2 ?7 (' 4: +3 /3*94 '2* 4::'/3 2*? +2 44 =3 52(' @3 2997 3? 3;3* @3:4 3 ' =29 3* 79 3? 4 2 62 '37)2 52<'9 2/(' 4 933 +2 *4*3 @7 '*?79 '479 +79@2*?53* E36 +3' 6)2/3 '* +3 '@3 4: +3' :2 +3 9 @2? :2 53 =29

Z - '' 7181."! 5. 8(5!1 ',1 +1.1 1;(!2:1: "4087 ',1 1".!* C.11D- 0. 8',6088- "8 1;(15' 08/ +, (, +1 D80+ 06? ',1.1 4"* ,"@1)118 0',1.- 28D80+8 '0 2-3)2" " "!! 1@18'- ',1* +1.1 08!* 1;(15' 08-

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4: 2/94 w7'*/ '79 +3(' 26632 3? '* +3 %4 75 =' + 2 < 32 @2*? 4: /)'3* 9 2 463* =2 =' + +3 6)3@9 $ +2 =+3* 6 3 ?4*'79 +2? 93'H3? +3 26' 4) +3 '@7*39 =2* 3? 4 +4)? 2 /47*/') 4: +3 6)3@9 3))'*< +35 +2 +3 4//76'3 9 4:)'3 /' 2?3) =3 3 *4 9 2)'<3 9 @7 2))'39 2*? /)'3* 9 4: +3 62 '/'2*9)3 '* 4 3 ':(+3 /45C 54*2) (' '* 4 2E'*< +3 42 + 4: 5')' 2 (' 2))3<'2*/3Z G 2*? +3 3A6)2'*9 +3 67 64 4: +3 7@)')'2*)2= 4 +2;3 >@33* +2 +3 '@7*39 @3'*< 2664'* 3? @(' +3 '@39 +3 62 '/'2*9 9+47)? 2) 4<3 +3)493 +3 64=3 4: <3 '*< +3' 62 '92*9 3)3/ 3? @(' +3 ;4 39 4: +3 /)'3* 9

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(! 18')2-/ ")-'1..18:0 - 872!0- = : -I (1.1 .14 50--18' %8 @1.- :1 8:1 5.0(1--1.0 =5.1( )2- 5!1)14 1;50-(18'1-

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Y N? "8'2- '.)280- 62.0.''182 '/ 2' = (08'18:1.18 5"'. (0.24 ,0-5 '1- (! 18'1-921 = S "5 '0! 24 8-1: --1#?= (08(! 24 8:1 !17 51.61.18:"1 ,")1.1

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+2 ?)(' :'*?' 2*(' 2/39' 4:' 97/+6 +3' ' 32?3 9' 9'*/3' +3'
3;';2)' 4:' 6+')4)4<(' +2;3' E*4=*' 4:' *4 +'*<' 4:' +3' E'*?6
2*?' +79' ' =29' '56499'@)3' :4 ' +35' 4' :4 5' 2*(' 4 +3 !'
/4*/36 '4*' 4:' +3' 6)3@9' +2*' +2 ' 29' 466493?' 4' +3'
*4@')' (' 'B =29' 2' @4?(' 4:' 4=*B/' 'H3*9J' 254*<' =+45'
+3' ',4@)39' +2?' 2?+3 3* 9' 2*?' ?363*?3* 9' 7*?3 ' +3'
253' 4:' /)'3 9' 2' 3)2 '4*' +4=3;3 ' 53 3)(' 96 '*<'*<' 47 '
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3;3 +3)399' +47<+' +3 3' =29')'4' /4* 3564 2 (' 3AC
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3 5' +3' ?39/ '6 '4*9' 4:' +3' *2 7 3' 4:' +3' /)'3* 9+'6'
5'<+' 9 ')' +2;3' @33*' 97::'/'3* ' 4hV9+3=' +2 ' +3' 6)3@9'
97/+' 29' ' ' 26632 9' '*' +'9 4 (' 579' 3993* '2))(' 2*?' *3C
/3992 ')(' +2;3' @33*' :2 ' 354;3?' : 45' 2*(' 3)2 '4*' 4:' +3'
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?7 3?' @(' +3' /45 54*2) (' +2;3' @33*' '*/ 3?'@)3' '*' 2' 9 2 3'
4:' /)'3* 9+'6L' =+3*' +3' 62 4*' =29' ?' 3/ 3?' 4' 6 4 3/ '
+'9' /)'3* 9' 2*?' 4' 6 454 3' +3' ' =3):2 3' 3;3*' 2<2'*9'
+'9' 4=*' *32 39' E'*' 47)?' +3' /)'3* 9' 3;3 ' +2;3!' @33*'
'*' =2*' 4:' 2*(' 4 +3 B6 4 3/ '4*' +2*' +2 ' 4:' +3' ' 62 4*9L'
/47)?' +3(' +2;3' *3JJ?3?' +2 ' 4:' +3' '@7*39' 2<2'*9' 2*('
4*3' =+45943;3 'L' *?' +4=' /47)?' ?3/ 339' +2;3' @33*' 629'
'*6' +3' 29935@)'39' 29' +3(' =3 3' 2: 3 =2 ?' 2?;3 33' 4' +3'
'* 3 39 9' 4:' +3' 62 '/'2*9' =+3*' +393' =3 3' +3' /4*/3 *'
4:!3;3 (' '*?';'?72)' 62 4*L' +3' ' /)'3* 9' ':' +3(' +2?'
+79' '*,7 3?' +35 ' =47)?' +2;3' @3/453' 47)2=9

+3' 97 6 '9'*<' +'*<' '9' *4 ' +2 ' +3' /)'3* 9' =3 3' 2'
4 2))(' ?'::3 3*' @4?(' : 45' +3' 6)3@3'2*9$ *4 ' +2 ' 29'
:4))4=9' : 45' =+2 ' ';(' 92(9' 2@47' +3' /4*93R73*/39B 4:'
+3' 7@)')'2*')2=' +3(' =3 3' *4 ' '*/)7?3?' '*' +3' '@39$
@7' 2 +3 ' +'9' 3A6 399' 39 '54*(' +2 ' +3(' +2?' ;4 39' '*'
+3' /45' '2' 4:' +3' /3* 7 '39' 3;3*' @3:4 3' +3' ?//35B
;' 2 3' 7 ' :4 ' +'9' =3' 9+47)?')44E' 764*' +35' 29

Z ' 1("2-1' ',1' '."8-61.' 06' ',1' 1!1(' 08!'0' ',1' '.)1-' +"-' '0'
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94,47 *3'!9')'E3 +493''*' 33/3' ?39 ' 7 3 4:' 2)) 64)' '/2) '<+ 9'2*?=+4 /47)?*4'3;3*' 52'* 2'*' +3''/';') '<+ 9' 3A/36''*' +3 63 94*' 4:' +3'' 62 4*' 2*?964*94 ' 7' +3 3'9*4:4 /3''*'2*2)4<('=+3*' 466493?4 97/+'2?' 3/' 2993 '4*'' *)'(' +'9 /3 2'*)(' ?439 *4' /4563)!79 4 2997 53 +2' 2))' +3 /)'3* 9=3 3 3 2 I2*' /' 'H3*9'2*?+2' *4 62 '4:' +35'=3 3 53 '/9''*' +3 33E' 93*93'$ 2) +47<+' ' 266 3+3*?+2' *4 53* '4*' 4:' 2*('97/+'9 4 @3 :47*?' ' '9 97 3)(''*/ 3?'@)3 +2' 453 + 3=' 463*' 3;3*' +3')4=39': 2*/+'93 94 ='?3' +2' 3;3 (' :4 3'*3'4*' 2 2/+C '*<' +'593):' 4 2 62 4*' 5'<+' 2/R7' 3 ' ' +2' +3*' =47)?+2;3 @33*' +3 2?;2* 2<3 4:' +3 '9464)' 39L' 79' 29)')3 /2*' =3 9766493 +2' :4 3'*3 9' @3:4 3 2 6 3 4' :4' +35'=29 39 2@)'9+' /47)?/453'* 4 /47 ''*' +3''4=*' 63 94*9Q\' 7/+' :4 3'*3 9 93)3?2' 453 =3 3 /456)3 3 53 '/9 2*?' /4*,3/ 7 3 +2' 2 62 ' 4:' +3 : 33?53*' =3 3 '*' 2 9'5')2' /4*?' '4*' ')44E9 94 ;3 (' 7*)'E3 +3 32)(' 2<39' +2' +3 3 9+47)?+2;3 @33*' =4 :4 59 :4' +3 93):9253 67 6493' 2*? +3 ?'9 '*/ '4*' @3C =33*' +35' 5'<+' 94 329')(' @3)49 ' +2' ' /2**4' 63 C 972?3 5(93):' +2' 2 9)2;3 =+4 =29 :3': 33 @(' +3 $ * ' <2'*3?+3 9253 ?3< 33 4:': 33?45' 29 4*3 @(' +3 /3*979 ('@3'*<' 3<'9 3 3?'*' +3 /3*979 +3 2)'2*9

' 41"-2.1' +"-' '" 50!' ("!(,"871' 06' ,1' ,7,1-" 450.'G "8(1' T,"'!1:''0' "+"-'80"',1''00 7.1"'5.1--2.1' 06' ,1' 5.1'0.J')2-81--/='0'+,(,'60.'1;"45!1' ,1' 8-' '2' 08' 06' ,1'@(1(,"8(1!G !0.J-' 066 (1' 8' 87!"8:',"-')118 0+87/=)2"',1'"!".4'1;('1:')*',1' (!18'-'06' ,1' 7."8:11-/+',' +,0-1' 5"'.08"71' ,1' 414)1.-'06' ,1' '"! "8' (0861:1."(*' 4 7," 0+': -518-1' ,1'5"'.08' +,0' ("41'60.G +".:/ T1-l',1' 4"-D' +',02" +,(,' ',1' (!18" +"-' 80" "!!0+1:' '0' "551".

Y' 18(1/!087' "6'1.' ',1' (!18'-,5' 8' '-' 7182 81' 60.4',":' (1"-" '0'1;-'/',1'51.-08' +,0' ("41')160.1')1' (02." 8' "8*' 5".' (2G !".' ("-1' +"-' ("!!1:'

A' 0',' ',1-1'.7,'-' ".1''."(1:')"(D' '0' ',1'0!:1-" '41-'3)*'-'0G .1-'51.-08 6* 87' ',14'3 ',1'60.41.' '0' ',1'.1!1"-1'06' ,1'-!"@1'+,0':-G (!0-1:' ',1'(08-5."(*'06' ',1' ".92 8-3'<',1'!"''1.' '0' 1.@2-' 2!!2-' ,-':02)'!1--' +"-' ',1'-0!1'.1"-08' +,*',-' 4140.*' +"-' 1-51("!!*

5'<+ '2/R7' 3' +3': 2*/+'93' 4:' /' 'H3*9' 7 '2' 63 94*' =+4' =29' 4'+2;3' +3'9253'64=3 ' 29' +3(' +2?' 4:' 3A3 /'9'*<' +'9' < 32 ' 6 ';')3<3 ' 579 ' 97 3)(' +2;3' @33*' : 33' 2) 32?(' +'9 ' 2*?' *4' 54 3' ' /4*/3';3 .'?'?' +3' 9)2;3' @3/453' @(' +3' $ &' 2*?' 3;3*' @(' +3' /3*979' @3:4 30 +3' /3*94 9+'6' 4:' 66'79' +3')'*? ' +3' 53 3)('34@ 2'*3?' +3' '<+ 9' 4:' 2*' 3 2 I2*' *' @4 +' 9 2<39 ' 29' 53 3)(' : 33' 2*?' 29' 2' 452*' /' 'H3* ' +3' =29' 9 ')' 2' /)'3* ' 4:' +3' 529 3 ' =+4' +2?' 3)329 ' +'5G '*' +3' :4 53 ' +3' =47)?' 4*)(' +2;3' +3' '<+ 9' 4:' 2' 53 '/

% 3^?53*' 2*?' +3' ' 649 3 ' (' 6 4@2@)(' 52?3' 76' +3' 52'*' 62 '4:' +3' /)'3* 9G 2*?' 254*<' +393' +3' 2/3' 4:' +3' 4 '<'*2)' 4*39 ' 97/+' 29' +3(' =3 3' '*' +3' '53' 4:' 457)79 ' =47)?' '*' < 32 ' 53297 3' @3' 53 <3?' 54*<' +3' 53B' '/9' 2*?' 3 2 '2*9' =3 3' +3' 2 '92*9G ':' 2' 6)3@3'2*' <2;3' 76' +79@2*? (' +3' 92*E' 4' +3' : 2*/+'93' 4' =+'/+' +393' =3 3' /4*:'*3?' +3(' 44' =3 3' *4 ' =' +47 ' +J' +4*47 ' 4:' /4 64 2 '4*9' 92*/ '4*3?' @(')2=$' 2*?' +3' ' <7')?9 ' =3 3' '*' 97/+' +'<+' 39 '52 '4*' +2 ' 752!' =29' 92'?' 4' +2;3' @33*' +3' ' :47*?3 ' '3 3' =3 3' *'*3' 4:' +35$' 6'63 9 ' <4)?95' +9 ' /2 63* 3 9 ' ?(3 9 ' /7 '3 9 ' 2**3 9 ' /4663 C 95' +9 ' 64 3 9 ' 2*?' 2' *'* +' <7')?' /4554*' 4 +3' 4 +3 ' 2?39J.' +'9' 62 ' 4:' +3' 9 2 3' *3;3 ' 3/3';3?' +2 ' :7))' ?3;3)4653* ' =+'/+' 29' +3' <7')?9' =3 3' /4**3/ 3?' =' +' +3' /3* 7 '39' @(' 532*9' 4:' +3' /2 63* 3 9 ' +3' 7563 3 9 ' 2*?' +3' +45@)4=3 9 ' '*' +3' 9253' =2(' 29' +3' 62 '/'2*9' =3 3' @(' +3' 9'A' 97:) 2<'2 ' =29' *4' ?47@ ' ?39'<*3?' :4 ' '

+493' 254*<' +35' =+4' =3 3' '*?363*?3* ' 62)3B@7 <+B' 3 9 ' Y ''9464)' 39' =+4' +2?' *4 ' @47*?' +3593);39' 4' 2*(' 62 4* ' 8':' 97/+' 2' /)299' 3A'9 3? D' 2*?' +3' ?39/3*?2* 9'4:' /)'3* 9' =+493' '39' +2?' ? 46 ' 4:' =+3*' +3' +4793' 4:' +3'

&@181."'1:')*' -!"@1-3 ',027,' ',"'' (.(24-'"8(1' +"-' 4":1' 2-1' 06' 'O' (086 .4' ',1'6")!1'06', -') .',/"8:' +"-'.161..1:' 'O', -'8"41

' H!2'".(,/ H2,! (O!' (')

K' H!2'".(,/ 24"/ (' *)' 7" 8' ',.11' ' 41-' ',.11' 0+'.1G 4".D")!1' -' ',1' (08'."-" + ',' ',1' "8(18" "8:' 7.1"" 72 !:-' "' !OG .18(1'a

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62 4*9 @3/253 3A '*/ Y =3 3 7*R739 '4*2@)(' 29 3* ' 3 9 2*<3 9 4 +3 ?'993*9'4*9 @3 =33*' +3 2*/'3*' @7 <+3 9 2*?' +3 /45 54*2) (' 29 +3 535@3 9 4:' +3 %)4 3* '*3 <7')?9 =3 3 4 +3 :37?9 254*<J+3 +47939 4:' +3 73)6+9 2*?' +'@3))'*39J' 9 2 @4?(' +3 /)'3* 9 =3 3 6 4@2@)(' 9 '))' 97@,3/' 4 +3'4 ?3 9 4:' +3 62 '/'2*9

\

'*' :'*3' +'<+' 2*?')4='@(' 3A/)7?'*<' +35' ' 45' +3' 67@)'/' ?452'*9' =+3 3' 52*(' =+4' +2?' @33*' 9, '6' 4:' +3' ' 6 4C 63 ('@(' +3')499' 4:' +3' 3 ' 4 ('@3(4*?' +3' '@3 ' 5'<+' +2;3' :47*?' 2' +453' +3' "2)3 '2*')2=9' 52(' *4' +2;3' @33*' 3632)3?G +3' =3* (' '@7*39' 97/+' 29' +3(' +3*' =3 3' 52(' +2;3' +2?' +3' '<+' 4:' 9*2 /+'*<' 2' 63 94*' /4*C ?35*3?' 4' 93 ;')3' /4 64 2)' 67*'9+53* 9' :'G45' +3' <24)3 ' 2*?' @ '*<'*<' +'5' @3:4 3' +3' /47 ' 4:' +3' /45 54*2) (' =+'/+' 29' ' ' /47)?' *4' 29935@)3' 63))B53))' +3(' =47)?' +2;3' 4'97554*' 7'=4' 4'+'5'=+4'?7'9'?4'94' 2<2'*9' 66'79')27?'79'K

+3*'+3'2*?' ' 3 ; '79'=3 3'/4*97)9''*' +3' (32' \' 2' 962 E' 93' :' 3' 4' +3' '*:)2552@)3' 52 3' =+'/+' +2?' +79' @33*' 2//757)2 3?' *' 4)?' 52*' =+4' +2?' 39/263?' : 45'+'9'/ 3?' 4 09' 6 '94*''*' 9R72)'?' 2<9'62)3' 2*?':259'9+C '*<'=' +' +2<<2 ?' @32 ?!'2*?' +2' ' '56)4 3?' '*' 2<4*(' +3' +3)6' 4:' +3' w7' ' 39' ' / 4=?' <2 +3 3?' 47*?' +'5' 3' 9+3=3?' +35' +3' @)44?(' 52 E9' 4:'+'9' '*+752*' 32 53*' 3' 4)?' +35' +2' 2: 3'+3'+2?':47<+' '*' 3'<+' 2*?' =3* (' @2)39' +'9' +4793' 2*?' :2 5(2 ?' +2?' @33*' 6)7*?3 3?0 2*?'@7 *'@(' +3' 3*35($ +3' :25'*3' ?7 '*<' +3' 79/2*' =2' +2?' /4563))3?' +'5' 4' 93))' +'9' 2))!ZJ$ +3' +2?' @33*' :4 /3?' 4' @4 4=$ +'9' ?3@' + 47<+' 797 (' +2?' 7*' 76' 4' 52*(' '539' 9' 4 '<'*2)' 2547* $ =+3 3764*' +'9' / 3?' 4' +2?' 4@ 2'*3?' ,7?<353*' 2<2'*9' @'5' 2*?' +'9' =4' 94*9' 2*?' +2?')2'?' +35' '*' /+2'*9' #'9:'<7 3?' 29' +'9' :32 7 39' =3 3' 52*(' 3/4<*'H3?' +'5' 4' @3' 2' @ 2;3' /26 2'*' 45C 6299'4*' '*?'<*2 '4*' 96 32?' 2*' 76 4 3' + 47<+' +3' =+4)3' /' ('))' =+4' =3 3' 6)3?<3?' 2*?' 2)' =+4' +2?' 3?3353?

08*- 2-/@ ' N' , -' !00D-' @1.*' ! D1' "' , -'0. ("!' -'"'1G 418"3 "8:'*1"' "' -' 80', 87' 40.1' ', "8' "80', 1.' +"*' 06':.1-- 87' 25' +,"" 08*- 2-'-"*-' 8' ', 1' 5.1(1: 87' (!"2-1/', "' ,1' ,":' -1.@1:' "!' , -' ("45" 78-' 11'5' B

'-2-51("', "' 8' ', 1' 0. 7 8"!' .15.1-18"' 08' ,1')1!0871:' '0' 081'06', 1' '18' !0-"'.)1-' ,1'+,0!1'-'0.*'.14 8:-'2-/"8:' -'" 41.1' :25! ("'1/ 06', 1' 081' ")02" ', 1' 0!:' -0!: 1.' +,04' ' "8! 2-' .1G !1"-1-? @*/ ' /

+3' ' 6)3?<39' :)4/E' 4<3 +3 $ 2*?' 2))' =3 3' /)2 5 4 47 9' :4 ' 3)'3:' 4:' +3' <3*3 2)' ?'9 399' !

+3' 93*2 3' E*3=' *4 ' +4=' 4' 2/ ' +3' 6346)3' 967 5 3?' +3' 97 5 5 4*9' 4' 3*)'9 ' '*' +3')3<'4*9 ' =+'/+ ' =' +' 2' ; '3=' 4:' ?'; 3 '*<' +3' 9 4 5 ' =3 3' 4' @3')3; '3?' 2<2'*9 ' +3' "4)9/'2*9 ' +393' 2*?' +3' 2@'*39' 2 3' 5 3* '4*3?' v9' +3' *2 '4*9' 4 5 3' =29' +3*' 2 ' =2 ' =' +$:4 ' =' +' +3' 79C /2*9' 2*?' 2 '*9' 9+3' =29' 2 ' 632/3 ' 4'*67)9'4')' =29' '5 6499'@)3 ' 7 ' =+3*' ' 3 ;')'79' '9973?' 2' 6 4/)2 5 2C '4* B' +2 ' *4' 63 94*' '*' 9)2; 3 (' :4 ' ?3@ ' 9+47)?' @3' +'*C ?3 3?' ':' +3' =3 3' ='))'*<' 4' 93 ; 3$ 2*?' +2 ' 94')4*<' 29' 2' 94)?'3 ' =29' 7*?3 ' 2 29' +'9' /+')? 3*' 9+47)?' 3 5 2'*' 2 ')'@3 (' 7* 47/+ ' 2*?' '*' 6499399'4*' 4:' +3' ' :2 +3 0' 6 463 (. l J$' +3*' 2 ' =+4' =3 3' 6)3?<3?' 44E' +3' 5 ')'C 2 (' 42 +' : 3 ' 2' :3=' ?2(9' +3' /4*97)' 2 ' +3' +32?' 4:' 2' ; '/ 4 '479' 2 5 (' '/+' '*' <)4 (' 2*?' @44 (' +3' /4*R73 4 ' 4:' +3' "4)9/'2 '9' 4 ' 7 7*/'2*9' 2*?' 4:' +3' 2@'*39' 5 2 /+ ' @2/E' 4' 4 5 3' 7 ' +3' /4 5 5 4*2) (' =29' @' 3)(' ?3C /3' ; 3?' '*' ' 9' +463 9' +2 ' ' 9' 466 399'4*' 5 '<+ ' @3' 2))3C ; '2 3?

' < 32 ' ?32)' =29' 92'?' '*' +3' **2)9' 4:' +3' =2(' '*' =+'/+' 66'79')27?'79 ' : 4 5' +3' @3<'**'*<' 4: +3' ?'9C 7 @2*/39 ' 466493?' 3; 3 (' 5 3297 3' 4:' +7 5 2*3' 2*?' ='93' :4 @32 2*/3 ' J ?' + 47<+47 ' +3' ' =+4)3' /4* '*72*/3' 63 C 9'9 3?' '*' +3' 92 5 3' 4@9 '*2/(' +'9' 6 4@2@)(' /2 5 3' : 4 5' +3' :2 5 ')(' /4 5 5 3* 2 '39' 4:' +3')27?'' =+4' 6 '?'*<' +3 5 93); 39' 4*' +3' ' +2 3?' 4:' +3' 6346)3 ' 29' +3' "2)3 '" ?'?' 4*' +3' ' +3 3?' 2 (')4; 3' 4:' +3' 6346)3 ' 64 2(3?' +3' ' 2*/39 4 ' =' +' +3' /+2 2/ 3 '9 '/' :32 7 39' 4:' +3' ' +4793G *4 ' +2 ' 2*(' +'9 4 '/2)' 2//47* 9' 4:' +'5' +2?' @33*' 6 393 ; 3?' +2 ' +4793' ?7 '*<' +3' /47 93' 4:' /3* 7 '39' 6 4?7/3?' 93; 3 2)' ; 3 (' 3 5 '*3* ' :3=' < 32 ' 5 3*$ +2 ?)(' ?4=*' 4' +3' '5 3' =+3*' ' ' @3/2 5 3' 3A '*/ ' 2' 9'*<)3

' I 7' "77 8' -114-' '0')1' 80', 87' 40.1' 0.' !1--' ', "8' "8' "((028'/ 8' '", -'0. ("!' 60.4/ 06' ', 1' 0. 7 8' ' 'N ' +, (,' 40-' 5.0)"G)!*' 5.0:2(1:' '! -' @1.*' 1661('

4@)35'?3?' 4*3' *' 2))' 2<39' ' ' ?'9 '*<7'9+' ' 93):' 2)'E3' @(' 2' 96' ' ' 4:' +27<+ (' ?3:'2*/3' @(' ?'9?2'*' :4 ' +3')2=9' 2*?' ' 4*' +2 ?*399' 4:' +32 ' +3(' =3 3' (2* 9' @(' *2C 7 3' 2*?' *4=' 2*?' +3*' ?2*<3 479' ?352<4<739' '@3 '79' =29' *4 ' 54 3' 4?'479' +2*' +3' 32)'3 ')27?'' ' +3' ' /+2 2/ 3 ' '9' ;'9'@)3' '*' +3' 9 4 (' +2 ' 97/+' 29' +2?' @33*' 9)2;39' :4 ' ?3@' =3 3' 93* ' @2/E' 4' +3' ' 6 '94*9' @(' 66'79')27?'79' 4*' +3' ' 3 7 *' : 45' +3' :'3)?' 2*?' +2 ' 97/+' 29' =3 3' 6)3?<3?' =3 3' /4*9'<*3?' @(' +'5' =' +47 ' 53 /(' 4' +3' ' / 3?' 4 9' 7 ' +393' 93* 3*/39' /47)?' *4 ' @3' 3A3/7 3?G' :4 ' +3' 6)3@3'2*9' =3 3' '*' 463*' '*97 3/ '4*' +3(' 5.0'1('1:' 2))' =+4' =3 3' /4*?35*3?G 2*?' +3' 797 3 9' =+4' +2?' 4@ 2'*3?' +493' ?3 39 3?' ,7?<353* 9' +3' (47*<' 62 '/'2*9' =+4' '*' +3' ' H32)' =3 3')3*?'*<' 2' +3)6'*<' +2*?' 4' +3' 4::'/3 9' 4:' +3' /47 ' /47)?' +2 ?)(' 92;3' +3593);39' : 45' +3' ':7 (' +79' +3' (32 '629 '2=2(..JI

+3' *3A ' (32 ' =+3*' +3' 5')' 2 (' 93294*' 2 ';3?' +3' /4*97)9' "' <'*'79' 2*?' "3 79'79' :47*?' ' ' '56499'@)3' 4' 2'93')3<'4*9' +3' /455 4*2) (' 29935@)'*<' @(' *'<+' 2*?' 93/ 3)(' '*' +3' R72 3 9' '*+2@' 3?' 3A/)79';3)(' @(' +3' 6)3@3'2*9' 4*' +3' ;3* '*3' 2*?' +3' 9R7')'*3' =29' '5C 54;2@)3' '*' ' 9' ?3 3 5'*2 '4*' *4 ' 4' 9766)(' 2*(' 94)?'3 9G 2*?' +3' 3* 32 '39' :4 ')3*' (' =' +' =+'/+' +3(' +2?' @3<7*' *4=' < 3=' '* 4' 2' ?352*?' +2 ' 2))' ?3@ 9' 9+47)?' @3' /2*C /3)3?' +3' :3 53*' =29' 94' ;'4)3* ' +2 ' +3' 54 3' 5')?)(' ?'96493?' 254*<' +3' 62 '/'2*9' 3/455 3*?3?' +3' 67 /+293' 4:' 632/3' 3;3*' 2 ' +'9' 6 '/3' +3 9' 79 3?' ' ' =47)?' 97@9'?3' 4*' +3' 39 4 2 '4*' 4:' +3' ')'@3 (' 2*?' 6 463 (

<' 2. 87' ', -' (08-2!-, 5' '' -'-" :' ', "'' ', 1' '145!1' 06' 1.(2.*' +"-' :1: ("'1:/ "8' 1@18'' (0881('1:' T ',' ', 1' 8-' '2' 08' 06' "' 72 !:' 06' 41.(, "8'-H "8:' ', "'' 08' ', -' 0((''- 08' "8' 8-51('0.' 06' ', 1' (0.8'.":1' +"-' 6 .-'' "550 8'1:')*' ', 1' 5105!1' , -' 4"7 -'."(*' +"-' 5.0)")!*' .181+1:' 1@1.*' *1".// 28' !' ', 1')2- 6 1--' +"-' '."8-61..1: '0' ', 1' 1: !1-/ +,0' "'' 6 .-'' ,":' 80', 87' '0' :0' + ',' '' 6' ', 1' 1!1(' 08' .1-'1:' + ',' ', 1' 5052!2-/ "-' @*' '1!!-' 2-' S ' B#/ '' -' ,". :' '0' 28:1.-'"8:' ,0+' "' (18'2. 08/ ' ;'0. 2-/ ', "'' -/ "' 5!1)1 "8/ -,02!:' ,1' ', 1' 6 .-'' 51.G -08' +,0' ,1!:' ', -' 06! (1

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+3 3)3293 4: +3 ?3@ 4 9 : 45 9)2;3 (=+'3+ 73 4 +'9 =4 ? +3 ?352*?3? +3 3764*? +3)2'?? ?4=*? +'9 4::'/3 +3 64=3 4: =+'/+ =47)?? +2;3 @33*? 2 ?2*<3 4799 356 2 '4*? 4 67 ? ?4=*? +3 9/2*?2)479 2@793 4: 2 :4 52) '<+ =' + 2 9 4*< +2*?? +3 6)3@3'2*9 +3593);39 4=*3? +2 ? +3 /47)?? *4 ? ?4 54 3 4 E336 +'9 :2' + 2*?? :7)) 4: < 2 ' 7?3 /4*?7/ 3?? +'5 : 45 +3 %4 75)4 +'9 +4793

+3 ?'/ 2 4 09 2 5 (4: :47)3<'4*9 +2?? @33*? ?'9C @2*?3?? 2: 3 +'9 '756+6 @7 +493 4: +3 /4*97)9 =3 3 9 '))' '*? +3 :'3)?? *?3 +3 6 3 3A +2 2 3*3=2) 4: +49 ')' '39 =29 '563*?'*< +3(= 3 /4552*?3?? 4 352'*? 7*?3 2 59 3 3764*? +3 '*9'* 3/ '4*? @ 4E3 47 +3 2 5(2664'* 3?? '/'*'79 3))7 79 ' 9)32?3 / 49 +3 *'4 2*?? 4//76'3?? 2 9 4*< /256 4*? +3 2/ 3?

!',027,''',1 +0.:-06 08*- 2- =.0!- .' 4 S..5".1@X'".";S@ #=-114: -'8('!*''0 1;5.1--"-42(,/ *1" 1!-1+,1.1 ,1 60!!0+- "8 "((028)*+, (,''',1 8-2.718'- +1.1 08!*'081 06 ',1 (08-2!".".4 1- , -8 ',0-1 :"*- -"-" :'0 ,"@1 (08'" 81:''.11 !17 08-? "8:+,18 ',1 '.)281 .2'2- "--1.'-'","',1 14 7."8'- +1.1 42.1 ','8 ',. (1 "- 8241.02- "- ',1 !)"8 (0!08*'06 0 42!2-S@ #/', - -)1("2-1 1@1.*!17 08 "'','"' 41/ ',1 '.)1-)1 87'+18'*/ ,":6@1 (0,0.'-"8: 4183 +, (,'-',1 824)1." -- 781:'0 ',1 042!1"8 (0!08*? "8: 08*- 2-6"8(1: ',"' ',1 -1(1:1.- ,":)118 -'.187',181:')*'81+ (041.-6.04 ',1 ('* 0 ',"' 8 ',1 5"--"71 - B 11 * (<,' /=+, (,'-(1.'" 8!*' (0..25'/ +1 027,"5.0)")!*' '0-2)-' '2'1 @*J- "((028 '00/ ',"' ',1 : ('"'0.).027,"60.+".:, -5.050- ' 08 8 ',1 -18"'1 "6'1.'',1 .1'2.8 06 ',1 (08-2! 1'2- 2-/ 45! 1-','"08!*',1','.11 !17 08-06 ',1 0',1 (08-2! +1.1 -'!! 8 ',1 6 1!:' -'.21','"08 "80',1.0((- 08 08*- 2- 4"G 7 81-',1.1 +1.1 -;!17 08-? 60.',-'"!!)1 41"8-/+,18 ,1 4"D1- 55 2-"*','"' ',1 14 7."8'-+1.1 80"-0 42(,'"-"'-1@18','5"."\6 ',1 04"8- 8 ',1 (18-2-S@ N #3 8 0',1.+0.:-/: :80" "4028" '0 N ,"' -'0-"*/ -;!17 08-08 ',1")0@1418' 081:' -("!1 (08- -" 06 600' -0!: 1.-? ',1 ("@"!.*/ "((0.: 87 '0 ',1 @1+-'"D18)* 08*- 2-/".1 18' .1!*!16" 02" 06',1"((028' , -' -""1418" 60.'"!087 41 ."',1.':"__!1:'','8 :1(1@1:41)* '-:1G !2- @1 , -'0. ("! !00D ' "' -+0.',+,!1 '0 0)-1.@1 ,0+', -' '00/ +,18 (. ' ("!!*1;"4 81:/ : -"551".-

47* 9 '* +3 59 75'*3 ?'9 '/ . IJI +3 /4*97)9 2*?
+3 62 '/'2*9 3 7 *3?' 4 453 =' +47 '*,7 (' 4 ''*97)
2*('4:' +3 *2 2 ';39 '* +3 32)'39 +'9 4 (' 4:' 453
@3 2(' +3' :2@7)479 *2 7 3 @(' +3 /4* 2?'/ '4*9 2*?
'56499'@')' '39 +3('*;4);3 +3 3 2 3 */<'3 97/+''* +3
2//47*'4:' +3 :' 9 3/399'4*'29 <';3*'@(' ';('2*?57/+
54 3 :7))(' @(' #'4*(9'79 4 /2* =3 6 4*47*/3 '' 4
@3 R7' 3 '56499'@)3 +2' 2 3/4))3/ '4* 4:' +3 ;2 '479
62 '39 =+'/+'?';'?3?' +3 93*2 3' 2*?' 4:' +3' '964E3953*'
9+47)?' +2;3 @33*' 6 393 ;3?$ 2) +47<+' 7*R739 '4*2@)('
+3 3 =3 3 *4 2/39 4:' '' '* +3 4)?39' **2)9' *?'
(3' +3 '* 3 *2)' /4**3A'4*' +3 3 53 3)(' 6 4;39 +3 '* 3))'C
<3*/3 4:' +3 2**2)'9' =+4 ? 3=' 76' +3 9 4 (' *4=J2?46 3?$
29 '9 /)32' : 45' +3 ' 3/4*/')2@)3 /4* 2?'/ '4*9 @3 =33*'
'' 2*?' 4 +3' 9 4 '39' =+'/+' 2' 4*3 '53 =3 3 *4)399 '*'
;4<73' '/3 4' =+4 3;3 (=+3 3 :4))4=9 4 2))(' ?':'3 3*'
**2)9 : 45' ';(' 9632E9 4:' +3 *^<4/'2 '4*' 4:' +3 ?'/C
2 4' '"2)3 '79 =' + +3 93/3?3 9' 29 4:' 2*' 7*?47@ 3?'
:2/ $ 2*?'2 '@7 39 +3 <)4 (' 4:' +2;'*< 3:)3/ 3?' +3 632/3
4 +'5'C :4' =+'/+ 3294*' 2*?' *4 B:4' 2*(';'/ 4 '39' +3
97 *253 4:' 2A'579 2*?' +3 549' 96)3*?'?' +4*47 9 =3 3
@39 4=3?' 4*' +'5IJ' 'T: 2<53*' 4:' +3 9253 9 4 (' '9
?'9/3 *'@)3 '*' =+2' ';(' +'593):' 53* '4*9' '*' j' 62992<3
:2' 354;3?' : 45' +3 +'9 4 (' 4:' +393 '539$ *253)(' +2'
+3 *2')' =29 4*/3 ? ';3*' '*' @('2 ?'/ 2 4' ?7 '*< +3 3C
/399'4*' 4:' +3 /45 54*2) (' C :4' 2' +3 93/4*?' 3/399'4*

18(1' ', -' 1(1-- 08 +"-'"!-0 ("!!1:' ', 1 .2-'241. 81'? "..Q/
S1 ' ' "' /5' ' ,1 "(.1:' 028 ', ":' '-' 8"41'6.04')187
(08-1(."'1:''0 25 '1.')*', 1'5!1)1 "8-' +,18', 1*' +1.1'!1"@ 87' ', 1 .'
("45'? 1-'2-/@' "(1.' 08-'? (1.0/ ."74'5.0 0.8
K .2'2-/ 'S #'? :142-=(24' 5!1)1-=408'1."/ 92' "(1
"551!!"'2-' 1-'/ 0((25"@ --1'/ ' "!1. 24' : ('"'0.14' : (18:0 -1:"'
@ --1' : -(0.: "-'1'(
" ' '? 140. "=.151' '"/ 8' -1(1-- 08)2-'9208:"4'5!1) -'
(!"@24'")' : ('"'0.1'6 ;24' , -'-114-'0')1'6028:1:' 08' ', 1' , -'0C
. ("!' 6"('', "'', 1' (08-2!".' *1".' 1;5 .1:')160.1' ', 1' 1!1(' 08' 06', 1'
81+' 4"7 -'."'1-/", :' ', "' "!1. 2-' +"-' : ('"'0.' 8', 1' 4 : :!1' 06'
15'14)1.

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4 ?'/ 2 4 /47)? @3 2664' 3? +3 ;2 '2 '4*9 29 4 +3 *75@3 2*? *2539 4: +3 :' 9 '@7*39 4: +3 634C 6)3 =')) @3 *4 '/3? :7 +3 ?4=* 29)(2)) +3 **2)9 =3 3 *4 2< 33? 3;3* 4* +3 64'* +2 +3 2 5(44E ' 9 9 2 '4* R7'3)(4* +3 2/ 3? 47* 2*? 4@ 2'*3? ' 9 3*? =' +47 ;'4)3*/3 '94 29 '; (3))9 79 = 4 3 +2 +3 6)3@9 4//76'3? +3 ;3* '*3G '/3 4 92(9 :' 9 +3 2/ 3? 47* +3* +3 ;3* '*3 G 94 ?439 2))79 $ 2*? =+3* '/3 4 52E39 +3 3*35(4: +3 '@7*2 3 29C 93 +2 ' 4 '<'*2 3? ?7 '*< 2 /';')=2 =+')3 +3 9 4*<B 649 9 '* +3 /' (=3 3 93'H3? 2*? +3)? @(2 53? 53* +3 3:3 9 4 +3 9253 9 4 ('94 +'593): 63 +269 ?'? *4 ?3*(+3 3*/25653* 4* +3 2/ 3? 47* *?33? ' '9 7 3)(''*/4*/3';2@)3 +2 +3 /45 54*2) (9+47)? *4 +2;3 6)2/3? 9453 4469 4 52'* 2'* +3' 9 4*< R72 C 3 9 '* +3 /' ($ 3)93 +3 =453* 2*? +3 +3)6)399 579 +2;3 :)3? 4 =47)? +2;3 @33* 93'H3? 29 +49 2<39 4 '9 ' '56 4@2@)3 +2 +3' ?4'*< 94 <2;3 '93 4 +3 9 4 (4: +3 533 '*<9 4* +3 ;3* '*3 2*? +3 9R7')'*3 @3C :4 3 +3 *97 3/ '4* 4 +3 3 +'))9 +3* 97/+ 6)3@3'2*9 29 ?=3) 9/2 3 3? '2@47 +3 /' (3 32 3? * +3 2/ 3? 47* +3)3<'4*9 3*/256 2*? 52(+2;3 @33* ,4'*3? @(;4)7* 33 9 : 45 +3 /47* (47*? 3 3 =3 3 +3)32?3 92*?'+3 3 +3 32 (=29 *3<43'2 3?

4 =47)? +3 62 '/'2*9 +2;3 @33* 2@)3 4 E336 +'9 2 5(47 4: +3 /' (=+3 3 +3 <2 39 4: +3 6)3@3'2* +'))9 9 44? 463* 4 ' 7 3;3 (4*3 4: +3 93;3* =29 2 :4 JIG 2*? +79 +3 2)2 '*3 w7' '*2) 2*? 2$)'2* =3 3 *4)399 ?3:3*9'@)3 +2* +3 26' 4 +393 +3* =3 3 4//76'3? @(2 53? 53* ,79 29 +3 ;3* '*3 =29

P 1 1 5 .

Y ."74 -' 5 F ? H!1)1-=".4"'" 408'14 "(.24 "' 921 @18' 824 8-1: '

1 17) 8 S F#? 8'1.'".4" (@24/ 1" 0((25"' -' 1" 0)-(-- -' 2.) -' !0(-' 5.0(.1"'24

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@(' +3 46649' 3 62 (G 2*? 52 3 9 5'<+ +2;3 /453 3;3* =' +47 32/+'*< +3 9253 6' /+ 4: ;'4)3*/3 29 2 %)4 3*/3 4 @2)39 '* +3 +32 4: +3 /' ($ '* +3 %4 75 +3 "3)2@ 75 +3 7@7 2' 9 +3 6)3@3'2*9 =3 3 :2 : 45 @3'*< +2 /45 54* 6467)2/3 =+'/+ 2E39 76 57/+ +3)2 <39 62 4: +3 '*+2@' 2* 9 4: 549 4=*9 94 453 44 =29 :2 : 45 356 (+4792*?9 @3(4*? ?4')@ +2? /453 '* : 45 +3 /47* ($ =+3 3 =3 /2**4 9766493 +2 +3 62 '/'2*9 2*? +3' /)'3* 9 =47)? @3 2@)3 4 52'*B)2'* +3' < 47*?

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2*?' 329')(' =47*?9 979 2'*3? @(' +'9 /)299 '* +3' ' 6 4C 63 (' +32)$ ':' +3 /4*9'?3 9 +'9' =+3* 3;'3='*< +3 +'9B' 4 (' 4:' +3 9 2 39 4:' 2* 'R7' (' =+'/+ =3 3 ? 2'*3? +(' 6 ';2 3 797 (' +3 =')) @3 :2;4 2@)3 4B5 3297 39 =+'/+ 3*? 4 6 393 ;J +3 3?' 2 (' 6 463 (' 2*? 63 94*2) : 33C ?45 ' 29 4)4*' =29' +2 ' 2*(' 299'<* 5 3* ' 4:' +3 67@)'/ ?452'*9 4 +3 6)3@3'2*9 =29 2< 33? 4 ' '9 3A/33?'*<)(' '56 4@2@)3 !

+2 3;3 ' 52(' +2;3 @33*' < 2* 3? 4 +3 ?3@ 4 9 ' 2)' 2/39 4:' ' ' +2? ;2*'9+ ' '*' 2 :3= ' (32 9 ' +3 <44? 3::3/ 3? =29 944* ?4*3 2=2(' 45 3 :4 ' 2)4*< '53 @3C '*< ;'9' 3? @(' 5'9:4 7*3 2: 3 ' 5'9:4 7*3 7 ' +3 532C 97 39 2E3*' 4 R7'3 ' +3 '* 3 *2)' ?'993*9'4*9 <2;3 @' + 4 2*' '*9 ' 7 '4* ' 4:' 2 *2 7 3 =+4))(' 63/7)'2 ' ?2*<3 479 4*)(' 29 < 32 ' '* 3))3/ 72)' 64=3 9 2*?' 2*'52)' 96' ' 9 2 3 ?2*<3 479 ' =+'/+ 96 32? +3 52,39 (' 2*? +3 356' 3 4:' +3 452*' 6346)3 ' 2*? 6 393 ;3? +3 367@)'/ : 45' 3;4C)7 '4*9 2*? : 45' (2**($ ' 532*' +3 '@7*2 3

! ')3' 29 +3 32)' 4:' 3'/39 3 ' :4 3@4?3?' =+3*' +3 975C 54*3? +3 ?367 '39 4:' +3 E*'<+ 9 2*? /45 54*9 4 +3 62)'253* ' 4:' +3 @2 4*9' +2 ' +'9 =29 +3 @3<'**'*< 4:' 2*' 29935@)(' =+'/+ =29 2 ' 4*3 '53 ;' 7J' (' 4 6499399 +3 976 353 27 +4 ' (' '*' +3 E'*<?45$,79 ' 29)')3 ?'? +3 6)3@3'2*9 4*' +3 2/ 3? 47* ' :4 3933 ' =+3*' +3(' 4@ 2'*3? +3 '*;'4)2@')' (' 4:' +3' ' 52<'9 2 39 ' +2 ' +3 '@7*2 3 =47)? 2'93 ' 93):' @(' ?3< 339 4 2 6 364*?3 2 C '*<' 2*? +3*' 4 2*' 7*)'5' 3? 64=3 ' '*' +3 367@)'/

"55*' ',1' ' 41-' +,18'081' ("880'' ,"@1' '0 '"!D' 06' -2(,' 1;'.141' (2.1-/ ',1' 5.0:2(1' 06' "!!' 5.051.'*' "8:' 06' !") 02.' ,"@ 87' 8(.1"-1' 8' ',1' -"41/ 8"*' 8' "' 7.1"'1./ 5.050.' 08' ',"8' ',1' :1 8"8:-' 06' ',1' -'"'1/ "8:' +,18' ',1' 628:,0!:1.' -' ."',1.' (08:2(@1' '0' '-' 5.0-51. '*a' 2" -2(,' ' 41-' ".1' "')028'102-' 7 6'' 06' 60.'281/ +, (,' + !!' ,".:!*')1' 18G I0*1:' "7" 8' 60.' 4"8*' "71-/ 8' ',1' -"41' +"*' "-')*' C1.4"8*')160.1' ',1' ', .'* *1".-' +"./ "8:')160.1' ',1' .1@0!2' 08

8 08*- 2-'S@ ' 33R ' "!1. 2-'-"*-' ,1' ,":' 1;('1:' ',1' 8G : 78"' 08' 06' ',1' 5"'. ("8-')*' "' 41"-2.1' 06' ', -' D 8:' 11' 80'1

1 ' /

@3 =33*' +3' 39 2 39' +3' 6)3@9' 3*2/ 3?' 3 '@)3' 67*'9+C 53* 9' :4 ' 93/7 '*<' +3' 6 ';')3<3' 4:' +3' '@7*39' 4')2(' 6 4649' '4*9' @3:4 3' +35 ' :' 2*(' *3' '563?3?' 2*?' '* 3 76 3?' 2' '@7*3'! =+3*' 2?? 399'*<' +3' 6)3@3'2*' 29935@)(' +3' =29' 4' <';3' @2')' 4' +3' /4))3<3' 4:' '@7*39B' :4 ' +3' 62(53* ' 4:' =+2 3;3 ' 57)/ ' +3(' 9+47)?' 2:) A' 4' +'9' 4::3*93' 4*' 2 2'<*'*<' +'5' @3:4 3' +3' /4554*2) (G' ':' +3' ?'?' *4 ' +'9')':3' 2*?' 6 4: 3 (' =3 3' 4' @3' :4 :3' ' +'9')2=' '9' 36 393* 3?' @(' #'4*(9'79' 29' 2' 53 3' ?3/ 33' 4:' +3' 6)3@9G' @7 ' ' 9!' *2 7 3' '9' 97/+' +2 ' ' /47)?' *4 ' +2;3' 629 ' =' +47 ' +3' 2993* ' 4:' +3' 4 +3 ' 39 2 3

' =29' 2' /4* 4;3 3?' 64'* ' 3;3*' 254*<' +3' 2*/'3* 9 ' =+3 +3 ' +3' '@7*2 3' =29' 2' 52<'9 2/(L' +3(' =+4' =47)?' *4 ' 2))4=' 2*(' 4::'/3' 4' @3' 94 ' 7*)399' ' 9' 27 +4 ' (' 3A 3*?3?' 4;3 ' +3' =+4)3' *2 '4*' ?3*'3?' ' $' 2*?' 0;' +' ,79 '/3 ' 94' :2 ' 29' 3)2 39' 4' +3' 32)'3 ' 2<39G' @7 ' =' +' 3<2 ?' 4' +3')2 3 ' +3('9 '/E)3?' 2@47 ' 2*' 356 (' 9+2?4=' *!' +3' 93;3* +' /3* 7 (' 4:' +3' /' (' +3' '@7*39' =3 3' 2' *2 '4*2)' 52<'9 2/(' 4' +3' :7))39 ' 3A 3* ' #7 '*<' +3' :' 9 ' =4' /3* 7 '39' 4:' +3' ' 3A'9 3*/3' +3(' =3 3' *4')399' ?3/'?3?)(' 2' 53 3' 6)3@3'2*' 52<'9 2/(G' @7 ' 2' 52<'9 2/(' +3(' =3 3' '*/4* 39 2@)('G 4*)(' +3' ' 6 4;'*/3' =29' *3' +3 ' <4;3 *53* ' *4 ' 2?5'*'9 2 '4*' *' +3' ' 549 ' 3993* '2)' /+2 2/ 3 ' +3(' =3 3' 36 393* 2 ';39' 4:' +3' /4554*2) ($' 2*?' 29' 97/+' 6 4 3/ 4 9' 4:' +3')'@3 '39' 4:' +3' ' 4 ?3 ' 2<2'*9 ' +3' 976 353' 64=3 ' *4 ' 9+2 3 9' '*' +2 ' 64=3 $' 29' 97/+' 44 ' *4 ' g564=3 3?' 4' '56493' 2' 57)/ ' @7 ' 4*)(' 4' 6 46493' ' 9' '5649' '4*' 4' +3' /4554*2) (' 4 ' =3 3' +3(' ,7?<39' @3 =33*' 2' /4*97)' 2*?' +3' 63 94*' 93* 3*/3?' 4' /4 64 2)' 67*'9+53* ' @(' +'5'$ @7 ' 4*)(' 53?'2 4 9' '*' 4 ?3 ' +2 ' +3' 6)3@3'2*' /47 ' 5'<+ ' 29935@)3' =' +47 ' 4@9 7/ '4* ' 2*?' +2 ' 532*=+')3' +3' 2663))2* ' 5'<+ ' 3C 52'*' 2 ')'@3 (' +2 5)399 ' +3(' =3 3' +3' 93*939' 4:' +3'

08*- 2-/ @ ' B' ' -,"!!' -,1+' 8' ',1' 5.051.' 5!"(1' ',"' ,1' ("..1-' ', -' 0.: 8"8(1' 42(,' '00' 6".')"(D' ?) 2" ', -' -' 80' .1"-08' 60.' !00D 87' 2508' ' "-' "50(.*5,"!

Y' ,1*' +1.1' 80' ")!1' ' ')2' 08!*'

4:' +3' ' 4::'/3 +3(' /47)?' 4*)(' ?4 +3')2 3 ' 3 9+47)?' 3A63/ ' 4' :'*?' +2 ' +'9 ?352*?' =29 4 @3 52?3 @3:4 3 2 5'A ',7 (' 7*?3 ' 2':4 352*' 7 ' +3 /45 62/ ' +2?' @33*' 2 ':'3?' @(' 42 +' 7*?3 ' +3 :4 5' 4:' 2 32 (' @3 =33*')'3 =4 39 2 39 ' 4=' @(' 2' 7*';3 92)' 6 '*/'6)3 4:' 2)'2*' '* 3 C *2 '4*2)')2=' 2' 6346)3 +2 ' +2?' @33*' '*,7 3?' 3' +3 ' /4)C)3/ ';3)(' 4 ' '*' +3 63 94*' 4:' 4*3 4:' ' 9 535@3 9' +2?' +3 '<+ ' 4:' ('*< +3 :4 3'*3 ' =+45' ' ' /+2 <3?' =' +' 97/+' 2*' 4::3*93C 2*?' ':' 2*(' 32 (' =' +' +'9 /47* (53*' 3A'9 3?' +3(' =3 3 @47*?' 4' ?3)';3 ' +'5' 76' :4 ' +2 ' 67 6493' +3(' +3593);39 =3 3 *4 ' /4563 3*' 4 (' +'5C :4 ' '*C ?7)<3*/3 =47)?' +2;3 @33*' 54 3 +2*' 62 ?4*2@)3' '+' 2 9 2 3 4:' 52**3 9 =+'/+' 7*?3 ' 52*(' 3)2 '4*9' 97/+' 29 +2 ' 254*< +3 535@3 9 4:' +3 9253 <3*9' 2*?' +2 ' @3 =33*' 2 62 4*' 2*?' +'9 /)'3* 9 ' 52?3 ' '2*' '563 2 ';3 ?7 (' *4 ' 4 /4*?35*' 3;3*' +3 <7') ($ '*' 2 9 2 3 4:' 52**3 9 2E'*' 4 +2 ' =+3 3 /4567 <2 '4*' =29 4@)'<2 4 (' +3 ,7?<39 @3'*< 9=4 * ' ' =29 3A63/ 3?' +2 ' ':' +3' ' 3*35(' =3 3 6 4;3?' '**4/3* ' +3(' =47)?' 2/R7' ' +'5 ' +3 +3 ' +'9 @3)'3:' ?'?' *4 ' 39 ' 4*' 2*' '**4/3* ' ? 325 ' 2*?')32?' 4 2/ 9 4:' '*,79 '/3 ' '9 2*4 +3 ' R739 '4* ' 7 ' 4*' +393 < 47*?9 +3 '@7*39 +2?' +3 '<+ ' 4:' 2 2'<*'*< /4*97)9B 2*?' 4 +3 ' 62 '/'2*9 @3:4 3 +3 /4554*2) (' +3 3A'9 C 3*/3 4:' +'9 '<+ ' '56)'39 +2 ' +3 62 '/'2*9 +2?' +3 9253 2<2'*9 ' 2*(' 6)3@3'2*9 ' =+4 =3 3 /+2 <32@)3 =' +' 2)'E3 4::3*93 2<2'*9 ' +3' ' 4 ?3

+2 ' +3 /4*97)9 ' 2: 3 ' +3 3A6' 2 '4*' 4:' +3' ' 52<'9C 2/(' 9+47)?' +2;3 @33*' 253*2@)3 4 +3 /4554*2) (' :4 ' 5'9?3532*47 9 2<2'*9 ' +3!=+4)3 367@)'/ ' =47)?' @3 94 2 ' ;2 '2*/3 =' +' 2))' +3 3)2 '4*9 7*3R7';4/2))(' 2662 3* ' '*' +393 2<39 ' +2 ' ':' +3 '*9 2*/39 4:' /+2 <39 6 3:3 3?' @(' '@7*39 4*' 2//47* ' 4:' 97/+' 5'9?3532*47 9 ?7 '*< +3 +' ?' /3* 7 (' /47)?' '*' 4 +3 ' 3963/ 9 @3 3<2 ?3?' 29 +'9 4 '/2)' =3 9+47)?' +2;3 4 933E' :4 ' 2 ?':3 3* ' 3A6)2*2C '4*' 4:' +35 ' //4 ?'*< 4 +3 96' ' ' 4:' +3 /4*9 ' 7 '4*' '*' +493 ?2(9 +3 /7 '39 =3 3 +3 4*)(' ,7?<39 '*' 2))' +2 ' /4*/3 *3?' +3 2?5'*'9 2 '4*' 4:' +3 367@)'/C 2*?' 94 +3

'@7*3JJ579 +2;3 +2? +3 '<+ 4: /45'*< @3:4 3 +35 29 2//793 9 ': +3 R739 4 9 :2')3? '* +3' ?7 (

+3 '@39 =3 3 :' 9 52?3 2 @ 2*/+ 4: +3)3<'9)2C 7 3 @(' +3 7@)')'2*)2= * ') +3* +3(' /47)? 4*)(' 6299 394)7 '4*9)'E3 3;3 (' 4 +3 /4 64 2 '4* =+'/+ 53 3)(' @47*? +3' 4=* !@4?(' *' +'9 29 4* 4 +3 64'* 9 ())2 =+3* +3 44E 2=2(' +3 '<+ 4: 6 4649'*<)2=9 : 45 +30 '@7*39 =29 7*R739 '4*2@)(' 39 4 '*<)'3)3 3 4:)'3 /4*9 ' 7 '4* 47 4: 2* 2<3 =+'/+ +2?B629 2=2(' 2*? =+'/+ +3 3;3 (=+3 3 2'53? 4 3;';3

! +2 +3 *75@3 4: '@7*39 2 +3 :' 9 029 4*)(' =4 2)) +3 2//47* 9 '* 3::3/ 2< 33. I . I 9 4 +3' *2539 +3(' ?'::3 G +493 4: ' /'*'79 2*?)@'*'79 +4=3;3 9335 4 @3 6 3 (' /3 2'* +47<+ '/'*'79 +2? @33*' /+493* /45 52*?3 +3 =29 *4 4*3 4: +3 :' 9 @7 4*)(' 2??3? 4 +35 2: 3 =2 ?' +'9 9335 9?'9 '*/)(' 4 :2;47 +3 /4*,3/ 7 3 +2 2 +3 '53 4: +3 93/399'4* +3 :4 C 53 =3 3 2) 32?(' '*;39 3? =' + +3 4::'/3 =+'/+ +3* =29 9 '))' '*9'<*':'/2* $ 2*? +2 '/'*'79 =29 93)3/ 3? 4)32? +3 2 5(' 29 +3 :' 39 63 94* '* /293 +3 2::2' 3*?3? '* =2 ' + 3<2 ? 4 +3 97@93R73* /+2*<39 '* +3 *75C @3 =3 :'*? ?';3 9 2//47* 9 //4 ?'*< 4 '94 +3 3 =3 3 @7 =4 ?4=* 4 +3 7@)')'2*)2= 2//4 ?C '*< 4 '/3 4 +3(' /4* '*73? 4 @3 =4 :4 +3 :' 9 (32 $

@18 08*- 2-/ @ F/ +,0 6 .- 8"41-' '+0/ "8:' ',18 5.0G (11:-/ f8 N1 @* -' 92 '1 1;5.1-' 08 ', -' 50 8'? -0 ".1 (1.0/ 5.0 0.8/ "8:' :1 1'5 3 2: '"82-/ "8:' '' (2-/ 8 -(08 2-' 08 ',1 0.81! "8"3 *:2-/ :1 "7 -' ? k08" ."-/ @8

+ ,1-1 ".1 8"41:')* @*/ "8:')* *:2-/ ? ',1 ,"''1.' 8 ',1-1 -'"'1418'-' "!+"*-' 60!!0+-' C" 2-/ ', "' -/ 41: "'1!*/ C."((, " 82- 8 -(08 2- 8:11: ' +1 6 8:' 8-'1":'06" 'H "8:' ',1 -2.8"41 5.0@1-' ', "' " -' 80 "8 1..02.'06',1 -(.)1?)2 " a ' -' " 4 -'"D18 "!'1."' 08 4":1)* "82' 2-? ',1 "2.18' "8 / @ B/ ,"-' I 3 +, (,' (086 .4-' " ' ; ' ' !) G 8 2-/ 'U ' ' !1": -' ',1 1- -' '0 '1.1? @*/ @ ' ,1 6 (' ' 02-' 28 2-' .2'2-' "551".-' 80+,1.1 1;(15" 8 !08* ' - 8-' @*/ '

m "' '

2*?' +3' *3A ' +3' *75@3 '4:' +3' /4))3<3'=29' 2'93?' 3*'.0 \$ 2//4 ?'*<' 4' '; (' +3' =4' 4 '<'*2)' 4*39' 6 39'?3?' 2 ' +3' 3)3/ '4*' 4:' + 33' 4 +3 9 ' 4:'=+45' '/'*'79'=29' 4*3 ' +2 ' ?'9/ 362*/'39' 2 3' +393'.' '/3 40' 9 2 353* ' 94' :2 ' 29' ' ' '9' 2 ' ;2 '2*/3' =' +' +3' 2//47* ')J2 ' +3' *75@3 ' =29' *4 ' 2'93?' 4' 3*' ')'' 9'A' 2*?' +' (' (32 9' 2: 3 ' +3' '*9 ' 7 '4*' 4:' +3' '@7*2 3 ' 52(' @3' 3<2 ?3?' 29' /3 2'*)(' = 4*<' 39'?39' ' ' '9' 97 3)(' '*' +3' +'<+39 ' ?3< 33' '56 4@2@)3' +2 ' +3' 7@)')'2*')J='9+47)?' +2;3' '* 4?7/3?' 2' *75@3 ' /4* 2'*'*<' 2'?' 3/ ' 3:3 3*/3' 4' +3' /3* 7 '39 ' : 45' =+'/+' ' ' =' +? 3=' +3'3)3/ '4*$ 2*?' 9+47)?' +2;3' ?4*3' 2=2(' 4*3' @32 '*<' 2'6 464 '4*' 4' +3' *75@3 ' 4:' +3' '@39 ' 4' =+'/+' ' ' 2*9:3 3?' +3' 3)3/ '4*' %4 ' +3' :';3' '@7*39' =3 3' /+493*' 4*3' : 45' 32/+' /)299' 29' =4' =3 3' : 45' 32/+' 2: 3 ' +3' *75@3 ' =29' ?47@)3?' \$ 2' 3)2 '4*' =+'/+' /2**4 ' 649C 9'@)(' +2;3' /4* '*73?' =+3*' +3' /4*9 ' 7 '4*' 4:' +3' /3* 7C '39' +2?' 7*?3 <4*3' 2' +4 47<+' /+2*<3

::'/3 9' =+4' =3 3' +3' 36 393* 2 ';39' 4:' +3' 93;3 2)' /)29939' 579' *33?9' +2;3' @33*' /+493*' @(' 32/+' 93;3 2))(' 4 ' /2*' =3' 9766493' +2 ' +3(' 9+47)?' +2;3' @33*' 94' @(' 2' 52,4 ' (' 4:' +3' /3* 7 '39' 2E3*' /4))3/ ';3)(' +'9' =29' 2*' 266 42/+' 4' +2 ' 3R72)' (' =+'/+' 579' +2;3' 6 3;2')3?' '*' +3' 29935@)(' 4:' +3' '@39C 3A/36 ' +2 ' +3' 6)3@3'2*' E*'<+ 9' =3 3' 3A/)7?3?' 29' =3))' 29' +3')4/76)3 39' @3)4=' +3' :': +' /)299C :4 ' +3' 6 4)3 2 '2*9 ' ' '9' 6 4@2@)3 ' =3 3' *4 ' 4 '<'*2))(' 2?5 ' 3?' 4' ;4 3' 3;3*' '*' +3' ' '@39 ' :2 ' 54 3' '564 2* ' 39 '/ '4*')2(' '*' +3' ?363*?3*/3' 4:B' +3' /3* 7 '39' 764*' +3' 27<7 '39 ' 2*?' +' +3' '<+ ' 4:' +3' /)'3* 9' 4' ;4 3' '*' +35 ' 7 ' 4*3' @3(4*?' 2))' /4562 3' 54 3' 5453* 479' =29 ' +2 ' 2 ' :' 9 ' +3' '@7*3' 3)3/ ' =29

' (1.0/ ."74 ' 0.81!

U' M2 8921' (.1"'1-' 1--1/ - 872!0-' 1;' - 872! -' (!"--)2-'? -(08 2-/ 08' ,1' 0.81! "8" ' 11' 5 '

Y' 1(1.8' (.1"' ' -28'/) 8 ' 1;' - 872! -' (!"--)2-'? @*/ '

8' , -' 50 8" 7" 8' +1' -11' ,0+' ".'62!!*' ,1' 5"'. ("8-' 18:1"G @02.1:' '0' : @ :1' ' ,1 .' 0550818'-' 1.1' ,0+1@1.' 08' ,1' +,0!1' ,1 .' 1660.'-' +1.1' @" 8

9796'/'4* 3;3*':+3?'?*4:'*?'??'9'*/)(' 9 2 3?' +2 +3 6)3@9=29*4'/456 '93?'*' +3/7 '39 2*?'+3 +3 3 :4 3?'9 '@7 39''254*<9' +35..I J:4' +3 67 6493 4:' +'9 3)3/ '4*' :'=3 3:)3/'+4=';3 (' 329')(' +3 3)3/ '4*' 2*?' +3 /4*:' 52 '4*' 5'<+'@3 /4*:47*?3?'=3 9+2))')44E' 4*' +493 62992<39 29 ?3/'9';3' '*' =+'/+ #'4*(9'79 2E39 2 /)32';'3=' 4:' +3 97@,3/' 2*?'=+'/+ 2 3 '*' 63 :3/' +2 54*(''=' +' +3 =+4)3 9(9 35' 4:' +3 2*/'3*' /4*9 ' 7 '4*' +2' +3 /45 54*2) (' 9+47)?' +2;3 3* 79 3?' +3 /+4'/3 4:' 9 36 393* 2';39 4 +3 62 '/'2*9 '9 2*' 2@94)7 3' '56499'@')' (' @3 7*2*'5' (' 254*< +3 6)3@3'2*9 +4=3;3' 52(' 329')(' +2;3 @33*' 94 < 32' +2' 29 '@7*39 =3 3 2' 2)' 3;3* 9 4 @3 2664'* 3?' +3 '<+' 4:' 3:7 '*< 4 /4*:' 5' +3'' 3)3/ '4*' 52(' +2;3 @33*' 4:')')3 2;2') 4 +3 62 '/'2*9' 4' ':' 2 94)' 2 (' / 32 7 3 4:' +3' 9 =29 + 79''*' @(' +3 ;4 39 4:' +3 /)'3* 9' =29 +'9 52B 3 '2J 94)4*< 29 R739 '4*9 =' +'*' +3 /4))3<3 =3 3 ?3B /)?3? @(' +3 2< 3353*' 4:' +3 52,4 ' (' 254*<0 +35 93);39 2*?' +3 /4* 2 (' 6 2/ '/3 =29 *4' * 4?7/3?')) 2: 3' +3 ?3/35;' 2 3' =+3*' +3 4::'/3 =29 3;';3?' 2: 3' ' 9 2@4)' '4*' +3 27 +4 9 4:' +3 2*/'3*' @44E9' =+4 29/ '@3?' +'9 '**4;2 '4*' 4 +3 549';' 7)3*' 4:' 2))' +3 62 '/'2*9' 66'79)27?'79J' =3 3 5'9 2E3*' 2@47' +3 ?2 3 4:' +'9 /+2*<3 '*' +3 /4*9 ' 7 '4*6 @7' +3(' =3 3 2=2 3 4:' ' 9 '*/2)/7)2@)3 '564 2*/3' +3 '@7*39': 45 @3'*< 36 393* 2';39 4:' +3 /45 54*2) (' 2*?' 53 3)(' 27 +4 'H3?' 4 364' 4' ' =3 3 @(' +'9 53297 3 /4*;3 3?' '* 4 52<'9 2 39' 32/+'='3)?'*< 2 64=3' 4:'+'9 4=*

9 2 /4 64 2 3 @4?(' +3 /45 54*2) (' @39'?3 ' 9 36 3 93* 2';39' 3R7' 3?' /3 2'*' 63/7)'2' 2*?')4/2) 52<'9 2 39' 7/+ =3 3 +3 3?')39' =+493 4::'/3 '9 92'?' 4 +2;3 @33*' '*9 ' 7 3?' 2: 3' +3 32 (' 4:' +3 2/ 3?' 47*' 2*?')'E3

NB ' F?' 920'1:' 8' ',1' 5.1(1: 87' 80'1' ,1' 1;5.1-- 08' ' ' ' -' @1.*' .14".D")!1

Y' @*/ ' ' ' 8' ',1' 60. 41.' 06' ',1-1' ("-1-' ',1' 4"''1.' -' :1(:1:')*' ',1' 4"I0. '*/602.' "7" 8-" 081' P

had the management of the public chest of the commonalty.

The noblest and most salutary forms and institutions, whether in civil or moral societies, when bequeathed from generation to generation, after the lapse of centuries will prove defective. However exquisitely fit they may have been, when they were first framed, it would be necessary that the vital power in states and churches should act instinctively, and evince a faculty of perpetually adapting itself to the occasion, as the ship Argo did when it spoke, if such a fitness is to last. As it is, they either continue without any outward alteration; and then are only the more certain of becoming a mere lifeless shell: or they are gradually developt and transformed; during which process their original purpose is usually little thought of, and often totally misunderstood. Nay the condition of the persons for whose sake they were first enacted, will often undergo so great a change, that there ceases to be room for such a purpose. And then, should any one perceive that what is now oppressing and harassing us, would not have existed but for these forms and the events which fashioned them, he may unthinkingly turn his displeasure against them; may wish, not that they were suitably modified, but that they had never been; and may extoll what they did away, without knowing what it was, without asking what and where he himself would be, were it not for those very institutions, which now in their turn have outlived themselves.

In this spirit, Quintus Cicero in the Dialogues on the Laws inveys against the tribunate: which indeed was in his days a source of so much vexation and heartfelt sorrow to every honest citizen, that one can easily understand how they could overlook the good, which even in the desperate disorder of those times ought to have been sought, and might have been obtained from it. But the native of Arpinum should have remembered, that, but for

this office, his birthplace, which made him a Roman citizen, would have continued an insignificant town of the Volscians; that, but for the establishment of the liberties of the plebeians, his beloved brother would never have become, what by his consular power he had been for a year,—and that year worth a whole life,—and what he was throughout all ages by the power of his mind, the head of the Roman world; nay, that the man who turned the weapons of the tribunate against the Father of his country, was a Claudius, whom nothing but abuse had made a tribune.

Perhaps even Marcus Cicero himself was not fully aware how small and humble the power of the tribunate originally was. Nevertheless he soars above prejudices, and declares that Rome ought either to have retained the monarchial government, or that it was necessary to grant freedom in good earnest, and not merely in empty words, to the plebs [1374].

But for this institution, which was dictated by necessity, the two estates could not have subsisted side by side in a republic. A king, even in an elective monarchy, might have prevented any such necessity from arising: in a hereditary one it would never have been felt. Among the Greeks, the prince, the offspring of a heroic race, and the ward of Jove, did not belong exclusively to any part of the state. The inhabitants of the newly acquired territories, if they resigned themselves heart and soul to his sceptre, were loved and cherisht by him, no less than the houses of the most ancient of the ruling tribes. He was able to provide that every free man should enjoy all the rights he was entitled to by his actual condition and by his services: and many a disparity may be forgotten where there is a common bond of personal attachment. But this conservative form of government was unknown to

[1374] De Legibus, III. 10 (25). Aut exigendi reges non fuerunt; aut plebi re, non verbo, danda libertas.

the Romans, so far as our history goes back, as it was perhaps throughout the whole of ancient Italy. No sooner had it disappeared among the Greeks, than the houses began to oppress the commonalty, the towns to oppress the countrypeople; and with few exceptions it was to their own ruin. For some powerful members of the houses offered themselves to the disaffected as their champions, and combining with the commonalty, or the population of the surrounding country, and with a party of the ruling burghers, made themselves masters of the supreme power. This was the origin of the tyrants, who were to be found in all parts of Greece during a period of 150 years down to about the 70th Olympiad. Some few among them were deserving of their odious name: their authority in every instance was founded on usurpation: in themselves they were often benevolent, just, and wise: their influence was mostly salutary. For the institutions, which had newly grown up, had time to gain strength and steadiness under their dictatorship; since they stood as a personal guardian power by the side of the state: and, when they laid down their authority, it was like a youth who had reacht the age of discretion under wise tutelage. Now because the old governments refused to accede to any reasonable terms, revolutions ensued: and from this consequence the Roman patricians escaped, not through their wisdom, not through their firmness, but through the establishment of the tribunate. It is a profound remark of Cicero's[1375], that it was a check to the fierce bursts of the people's fury, the task of resisting oppression being undertaken by their chosen representatives, who in conducting the opposition moderated, and often quieted it. To judge from the lessons of Greek history, it was no less fortunate for the patricians, that the members of their order were from the first excluded from this office; although this arrangement was probably made by the plebeians for their own security.

[1375] De Legibus, III. 10 (24, 25).

By the leaders of this estate, who lookt forward to the time when their posterity should partake in the curule honours, this office was doubtless designed to be merely a transient institution; which was to be dropt when that end should be reacht. Their wishes were fulfilled. The plebs kept on increasing in power and in dignity. The patricians, from being a branch of the nation, dwindled into an insignificant number of families. The nobless of the two orders was united, and enlarged by fresh ennoblements. The plebs, as an estate, had no longer any oppression to dread. Yet the tribunate did not pass away. But it now put on a totally different character. It became a mode of representing the whole nation, even the patricians; although they neither elected nor were eligible to it. From this time forward the tribunes are entitled to the name of tribunes of the people, as we are in the habit of calling them from the beginning; so much so indeed, that it will hardly be possible to abstain altogether from using this name in the earlier ages, when as yet it was not appropriate[1376]. The people in a strict sense is the whole nation, and its soverain assembly, as contradistinguisht from the senate, such as it existed at Rome after the Hortensian law. But this word of many meanings acts with an intoxicating effect upon the mind; and a conscientious historian will therefore be glad to find substitutes for it. Fortunately the institutions of the middle ages have supplied one for the times of convulsion and dissension, which is perfectly accurate and sober.

In the later history of the Roman republic, we find the tribunician power carried to such a pitch by the changes in the state of things, and by its own usurpations, that it overtops the consuls and the senate, nay

[1376] The old German writers call the tribunes *Zunftmeister* (masters of guilds or aldermen), which has an odd sound enough: but in selecting this name they were guided by a just feeling that the plebs stood in the same relation to the houses as the guilds did.

the people itself. Yet no one had learnt from the experience of the past, that those branches of the state, which were then in need of the same shelter as the plebeians had once needed, had a right to receive it. In the course of centuries things went so far, that the tribunes no longer stood over-against the supreme authority, as representatives of the nation, but were tyrants elected for the term of their office; a kind of national convention; under a notion, like that which prevailed during the revolutionary frenzy, that the full powers nominally conferred by an election, where the greater part of the constituents vote without at all knowing what they are doing, bestow an unlimited authority. This however was only the last stage of the tribunate. The century and a half, on the history of which we are now about to enter, is the period of its blameless struggles in behalf of its own estate and of the whole nation; struggles by which the greatness and glory of Rome were achieved and secured for a still longer duration.

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